PROSPECTIVE DEVELOPMENT OF A MOBILE FARMERS MARKET IN MOUNTAIN VIEW, ANCHORAGE, ALASKA

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A

PROJECT

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ABSTRACT

The goal of this project practicum was to provide information to help improve food security in Mountain View, a neighborhood located in Anchorage, Alaska, by facilitating increased access to fresh, healthy, and affordable food for low income populations. A mobile farmers market in Anchorage could help achieve this goal. Mobile markets are effectively farmers markets on wheels, allowing food to meet consumers where they live. Such markets are gaining popularity in the Lower 48 and data documenting their successes have been emerging. This project aimed to compile information for a mobile farmers market that could: 1) increase access to, and utilization of, fresh, healthy, and affordable food for Mountain View, and 2) create positive relationships between local food and disadvantaged populations. Data from key informant interviews, surveys and existing research on local foods, financial and business considerations were utilized to characterize how to best serve the identified populations through a mobile market. Key informant interviews stressed the importance of consistency, convenience and reliability in any new business as the Mountain View community has a history of businesses not following through on promises. Surveys from potential market customers showed strong interest in the market selling locally grown foods such as root vegetables, greens, corn and berries. Grants from federal and state sources could provide funding needed for the market, including grants which cover EBT machines, which are essential when providing access to customers on federal assistance programs. It was found a successful mobile farmers market in Mountain View could improve food security by increasing community access to food, much locally grown. Increased purchasing of local foods could help develop local food systems, allowing consumers' money to stay in state, supporting local economies and link local markets.

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Chapter 1 Background

1.1 Food Security in the United States

The United States Department of Agriculture (USDA) defines food security as "access by all people at all times to enough food for an active, healthy life," while the inability of a household to gain access to adequate food is defined as food insecurity (USDA, 2013). The prevalence of food insecurity in the United States varies according to demographic characteristics, with higher rates of food insecurity experienced by those near or below poverty line, and households with children headed by a single woman or man (USDA, 2013). Although the topic of food insecurity has often been associated with the developing world (Ingram, 2011), the USDA (2013) estimated 14% percent of U.S households are food insecure. Many Americans who lived in food insecure households had education beyond high school (40%), and approximately 60% were employed (USDA, 2008) showing the far reach of food insecurity.

Food deserts are defined as "urban neighborhoods and rural towns without ready access to fresh, healthy, and affordable foods," (USDA, 2014). The USDA identifies populations as living within a food desert if the community meets thresholds related to low-income and low-access qualifications. Low-income communities are those in which 20% of the population or greater is at poverty level, or median family incomes are at or below 80% of the area median income. Low-access communities are those in which at least 33% of the community lives more than one mile from a supermarket or large grocery store (USDA, 2014). Both low-income and low-access qualifications must be met for the USDA to identify a community as living in a food desert (USDA, 2014). The 2012 USDA Economic Research Service Report Summary identified over 6,500 food deserts in the United States (USDA, 2013). To further identify populations living within food deserts, Dutko et al. (2012) studied characteristics of food insecure neighbor-

hoods and found where percentages of minority populations were high there were more likely to be food deserts, and areas of high poverty were more likely to be in food deserts, regardless of rural or urban designation. Bornstien (2012), *Time to Revisit Food Deserts* suggests more research is needed on whether people who need, but have no access to a car, shop less frequently and therefore, stock up on non-perishable foods which are often energy-dense, with more calories per gram such as sweets and starch.

In 2009, 5.8 million Americans, 2.5 million being in households in low income communities, were living at least half a mile from a full service grocery store, without access to a vehicle (USDA, 2009). Households without vehicle access must rely on public transportation or travel by other means (e.g. foot, bike) to access grocery stores (White, 2012). This, argued Laura Leete, Associate Professor of Policy at the University of Oregon, is the heart of the food desert problem. The issue lies not in lack of food choices, but lack of transportation choices. [The food desert problem] 'is really only a relevant problem to people who don't have access to cars, and that's a certain particular subset of the population. It's not even the poor population, but it might be 25 percent of the poor population". "In some urban areas virtually all or some huge percentage of the poor have access to cars and in other urban areas very few of them do. So it's a very context-specific problem," (Berg, 2012, p. 3). Lack of access to reliable transportation was found to increase health risks such as obesity and other diet related diseases (Bornstien, 2012).

1.2 National Health Concerns and Food Security

Healthy food access is important for the health of both adults and children regardless of income. However, families of low-income (total annual income of $23,550 or less for a household of four) have a higher risk of food related health disparities than populations above the pov-

erty line (Ruelas et al., 2011), and may benefit most from improvements in health food access. Persons making less that $24,000/year suffer from lower physical health, poorer dietary habits, and less access to medical care. Low intake of fruits, vegetables and whole grains, as well as the high intake of calorie-dense low nutrient foods, has been associated with such weight related diseases as coronary heart disease, cancer, stroke, diabetes, hypertension, and osteoporosis (Ruelas et al., 2011; White, 2012). In the United States, two-thirds of adults and nearly one-half of children are overweight or obese (Ruelas et al., 2011). Obesity, high blood pressure and diabetes are just a few health disparities found to be more prevalent in adults of low-income by the Gallup-Healthways Well-Being Index (Mendes, 2010).

In response to the food-related health disparities between low- and higher-income Americans, government-funded programming works to help provide resources necessary for accessing healthier food choices. The USDA Supplemental Nutrition Assistance Program (SNAP), formally known as "food stamps", provides nutrition assistance to low-income families or individuals who qualify. These funds are solely for food products, and are distributed on an Electronic Benefit Transfer (EBT) card known as a QUEST card (USDA, 2013). The federal government works with states and local organizations within the state to provide needed resources to SNAP beneficiaries. There is no limit to household makeup or age of beneficiaries. The number of Americans enrolled in the SNAP increased to 47.5 million in 2013, an all time high (USDA, 2013). Supplemental Nutrition Assistance Program benefits are not intended to cover a household's entire monthly food budget, however it has been shown that SNAP allows beneficiaries to buy healthier food than they were previously able (USDA, 2013).

In January, 2014 the House of Representatives passed a farm bill which called for SNAP programming cuts of approximately $800 million, 1% of the $80 billion/year Food and Nutrition Services program. The cuts drew sharp criticism from leadership familiar with SNAP beneficiary needs, which is exemplified in a quote from Madison, WI Mayor Paul Soglin: "SNAP is used as a safety net for individuals and families that are not able to adequately feed themselves, the money is being taken out of the pockets of those in the most need," (Hick, 2014). As a result of the programming cut, SNAP incentives for purchasing locally grown foods may be reduced (Hick, 2014). The USDA (2013) described the local food incentive program as benefiting customers not only nutritionally, but economically as well. Supplemental nutrition assistance program beneficiaries able to purchase foods grown locally are able to create a relationship with the grower and support the local economy, as well as benefit nutritionally from the fresh foods.

Little scientific research has been completed investigating the nutritional advantages of local over imported foods; however there are many reasons locally grown foods could be better than foods having traveled thousands of miles (Holdben, 2010). Holben (2010) found farmers markets have the potential to increase access to fresh produce, leading to more healthful eating. Consumers shopping at farmers markets are less likely to be exposed to processed foods, which typically contain refined sugars, fats, and preservatives (Parker-Pope, 2008). Farmers markets are also community gathering areas, connecting consumers to the farmers, cultivating loyalty and personal relationships (Holben, 2010), with the ability to increase food security for the consumer.

1.3 Food Security and Consumer Perception in Alaska

It's estimated that 80,000 residents in Alaska (11.6% of the population) are food insecure (USDA, 2008). The greatest numbers of food insecure individuals reside in Anchorage and sur-

rounding communities on the road system (Alaska Section of Chronic Disease Prevention and Health Promotion [ASCDPHP], 2008). A four person household in urban Alaska qualifies for SNAP if their combined annual gross income is less than $38,280, while a household of two qualifies if their income is less than $25,200. Alaska ranked 13th of 50 states in SNAP participation rates (USDA, 2013). 2012 SNAP participation in Alaska was 1,099,502 persons, which is the sum of monthly SNAP participant counts from January through December 2012. Anchorage averaged 15,074 SNAP participants each month during the same time period. Households with children present, as well as Alaska Native adults, were more likely to be food insecure (ASCDPHP, 2008).

Cost of food is one important factor that influences rates of food security (DHSS, 2009). The USDA estimates households spend an average of $43.75 per person/week on food, and with an estimated increase of 20% in Alaska related to food costs, Alaskans spend $52.50 per person/week (USDA, 2009). For a family of four, this equates to approximately $840/month. As food costs are higher in Alaska, SNAP allotments are dispersed at different rates than funds in the lower 48 states, but are still below average food expenditures. A family of four in urban Alaska qualifies for SNAP if their annual gross income totals $38,280 or less, qualifications for a family of two qualifies when making less than $25,200 a year. The Food and Nutrition Service (FNS) program updated the cost of living adjustments for Alaska in August, 2013, with the maximum SNAP allotment per month for a household of four in urban Alaska being $755 each month. This is a reduction from the $797 each month being distributed prior to August, 2013. A household of two was reduced from $438 to $415 (USDA, 2013). Households struggling with food insecurity frequently lack accessible fresh and nutrient rich foods. Even with the recent re-

ductions, SNAP funds allow a household to make purchases which would not have been possible otherwise (Markotwitz, 2012).

Nearly 80% of Alaskan adults consume less than the recommended servings of fruits and vegetables each day (DHSS, 2009). Poor food choices often contribute to poor health, with $459 million dollars spent each year in state to treat medical conditions associated with obesity and overweight. This totaled $9,129 per capita in health costs for the state, three thousand dollars higher than the US per capita health spending average of $6,815. Although there are food-related health disparities between low- and high-income populations, obesity doesn't discriminate based on race or income. Thirty-five percent of Alaska Natives, 27% of Caucasians, and 25% of nonwhite races are listed as obese in Alaska. Sixty-nine percent of Alaskan households struggling with obesity and overweight make less than $25,000/year and 67% of households making more than $75,000 annually are obese or overweight (ADHSS, 2010). Addressing the systemic issues of obesity and health food access (and utilization) is made all that more challenging given Alaska's geographic location.

In the article 'Assessing Food Security in Fairbanks, Alaska, Caster (2011) described Alaska's food system as being large and un-integrated. Food is imported to Alaska, with profits going to companies and outlets based outside the state. With over 95% of Alaska's food being imported (Caster, 2011), the state in its entirety would quickly become food insecure if anything were to disrupt the food supply. By developing a stronger local food system, money used to purchase local foods would stay in state, helping support local economies and link local markets (Caster, 2011). It has also been reported that food which stays local generated nearly twice as much income for the local economy as food exported or imported (Ketcham, 2007). An additional benefit of local foods is the reduced environmental impact. Reports showed food trans-

ported across the continent required up to four times the energy, and produced four times the greenhouse gas emissions as the locally grown equivalent.

In 2010, in response to limited community control over the food system and food insecurity in Anchorage, the Alaska Department of Health and Social Services (ADHSS)/Obesity Prevention and Control Program (OPCP), USDA—Alaska Division of Agriculture, Farm Bureau, Alaska Root Sellers, and other Alaska food and environment stakeholders formed the Alaska Food Policy Council (AFPC) (AFPC, 2013). With the purpose of advancing the community's food system, AFPC continues to provide educational materials about local food systems while advocating policy recommendations for local, state and federal development. One of AFPC's goals is "to provide all Alaskans with access to local foods which are affordable and healthy" (AFPC, 2013).

As commonly referenced by the AFPC, locally grown foods make up a small component of food found in Anchorage households. Approximately 583 Anchorage households were surveyed by the University of Alaska Anchorage regarding their use of local foods (Byers et al., 2011). Surveys were distributed and collected through community council meetings, UAA students/faculty, and public events. The purpose of the survey was to better characterize how Anchorage residents participated in the local food system. When asked what share of food in their household was locally produced, grown or harvested, 69% of respondents indicated less than a quarter of food consumption was from local sources, 26% of respondents said 25-50% of their diets came from local sources, and 16% of respondents responded none. When respondents were asked why their household did not purchase locally grown or produced foods, 58% of participants indicated the cost of local food is too high, and 50% said they did not know where to find local foods. To the statement 'I have no interest in eating locally-grown foods' the majority of

individuals (93%) either disagreed or strongly disagreed, indicating a strong interest in locally-grown foods (Byers et al., 2011).

In 2012, the Alaska Grown Brand conducted a discussion group to determine what "AK Grown" meant to consumers and what could be done add value to the brand. A focus group which consisted of nine target consumers was conducted July 9, 2012, and participants provided information beneficial for understanding barriers to purchasing locally grown foods (Solstice Advertising, 2012). Demographic information on discussion group participants was not provided in the report except that participants were Alaska residents. Issues discussed included: reasons for buying AK grown, meaning of the AK Grown logo, where consumers bought produce and factors which influenced their decision when buying groceries. Discussion group findings illustrated consumers were aware of the Alaska Grown name but did not actively seek it out. Participants did not know where and when products could be found. Comments from the participants included the following:

"I think Alaskans buy local if it is accessible, but I don't think they know where to find it."

Price was found to likely be a determining factor when deciding between Alaska Grown and alternatives. There was a stigma that local produce costs more (Solstice Advertising, 2012).

"I would really like to support Alaska Grown; however, it does come down to a price point issue as far as what I am able to support."

Most respondents felt awareness of Alaska Grown was too low, and stores could do more to promote the brand.

"It would be helpful to be constantly reminded at the grocery store why I buy this as opposed to this."

Suggestions given to encourage the purchase of local foods included education [on the nutritional benefits of eating Alaska Grown] at the store level, specifically for parents and mothers (Solstice Advertising, 2012).

Farmers markets were covered specifically within the discussion group, and were underused by focus group participants. It was felt farmers markets were not easily accessible and the consumer would need to put effort into researching locations, days and times. It was also expressed, due to personal or work schedules, consumers may have a difficult time accessing markets which may only be open certain days or times. Limited selection at farmers markets was also brought up as a concern: if there is not a large variety to choose from then it's not worth the hassle of getting to one (Solstice Advertising, 2012).Participants in the focus group suggested more advertisement and marketing regarding availability, location and timing of products associated with farmers markets. Research conductors found the price of local foods must be comparable, and if Alaska Grown products must be more expensive they could not be priced much higher than alternatives. Effort would be needed to let consumers know that purchasing Alaska Grown foods supports the local economy and provides the freshest choices in produce, such as a campaign focusing on the nutritional benefits for personal and family health and providing more information on local farmers market which sell Alaska grown products (Solstice Advertising, 2012).

1.4 Farmers Markets Nationally and Within Alaska

1.4.1 National Markets

In 2009, the number of farmers markets in the United States was estimated at 5,274 (Young et al., 2011), a 13% increase from the previous year and an 84% increase since 2000

(Markotwitz, 2010). The USDA Agricultural Marketing Service report stated farmers markets improve access to locally grown foods, benefiting customers as well as farmers (Holdben, 2010). Farmers were able to develop personal relationships with their customers, increasing consumer loyalty (Holdben, 2010). A national consumer survey conducted in 2006 showed consumers who utilized local farmers markets not only valued the produce and variety available, but the opportunity to support local producers (Holdben, 2010).

It has also been found that shopping at farmers markets is associated with increased fresh fruit and vegetable consumption, and that farmers market shoppers perceive local food as tasting more nutritious than foods not grown locally (Landis, 2011). Market customers were more likely to enjoy cooking at home, purchase food motivated more by nutrition than cost, and come from a household with a person of special dietary or health needs (Ruelas, Everson, Keikel & Peters, 2011). Although researchers found a link between farmers markets and the provision of additional fresh/local foods to customers, little research has been conducted directly linking market purchases to health outcomes. Additionally, only a small fraction of studied markets were located in food insecure regions, as farmers and market organizers worried about market participation and profits when working in low income areas (Markotwitz, 2010).

Barriers which prevented low income residents from shopping at traditional farmers markets, which are often located in middle-class or upper-class areas, included transportation, job scheduling, location, and cost of foods (Markotwitz, 2010). Many residents in low income communities lacked access to a reliable vehicle; because of this, availability of public transportation should be a consideration when determining a market's location (Markotwitz, 2010). People working multiple jobs or non-traditional hours could need a market with early morning or evening hours (Markotwitz, 2010). Overcoming barriers could be made easier by involving commu-

nity-based partners committed to improving access to local, fresh and affordable foods within low-income populations, and by adapting to the unique needs of specific communities.

Utilizing community partners was demonstrated by using the market's surroundings. Young et al. (2011) pointed to successful farmers markets which used the environment around the market to facilitate success. Markets located in high-traffic areas such as shopping complexes, schools, and/or churches were able to use the visibility, maximize pedestrian flows, and draw customers to utilized area resources. Markets which returned to the same locations each year demonstrated commitment to the community. Partners such as schools, churches, and/or community groups were able to support market sustainability (Young et al., 2011).

The USDA (2013) began to improve fresh food access in 2013 by partnering with farmers markets to prioritize a portion of SNAP funding for the following reasons: increasing healthy and fresh food access for SNAP beneficiaries; increasing sales and customer bases at locations where locally grown food is sold; and to promote the consumption of locally grown foods. By 2004 all states had adopted QUEST as a replacement to the paper coupons of "food stamps" (Peck, 2011). However, for most farmers markets a wireless EBT machine is needed to run the QUEST cards, as electric and/or phone lines are not be available at the market location. A wireless machine can be expensive and because of this, SNAP usage at farmers markets dropped dramatically after the 2004 implementation of the QUEST card (Peck, 2011). Nevertheless, studies exploring the impact of a farmers market presence in low-income communities have demonstrated success is possible and sustainable (Markotwitz, 2010; Holdben, 2010; Young et al., 2011).

Farmers markets in Louisville, Kentucky provide an example of how SNAP/Women, Infants and Children (WIC) incentives and community partnerships are able to contribute to the success of a farmers market. West Louisville and East Downtown Louisville residents took part in a two year study researching the impact of farmers markets in low income areas (Markotwitz, 2010). One farmers market was set up in each region, open Saturdays June through October. The two communities were home to 65,000 residents, with many household income levels being half those of the metro area. This was predominantly an African-American urban residential area, and both West and East Downtown Louisville were situated in food deserts. Residents had limited access to shops with food items, specifically fresh produce. When produce was available it was often at a high price and of poor quality. Health professionals within the city linked the lack of fresh/available foods with poor health outcomes such as high rates of cancer deaths, cardiovascular disease, obesity and diabetes (Markotwitz, 2010).

Each of the five farmers who participated in the East Downtown Louisville market lived outside the Louisville area and were unfamiliar with areas served. Farmers were supported by market managers implementing a $25 'buyout' of unsold produce at the end of the day which was donated to a local shelter. In addition, local organizations gave each WIC market customer a token valuing $10 to be used for produce purchased at the market. At the end of the day farmers would redeem tokens with the market manager. East Louisville market redeemed an average of $60-70 per farmer with these tokens each Saturday. A local bank purchased the EBT machine necessary. No sales data were available, but the market manager estimated a good day at the market totaled $125 per stand, before the $25 buyout. Each farmer reported at the end of the season they enjoyed selling at the market and felt appreciated. The East Downtown Louisville market would not have been possible without the use of an EBT machine and WIC vouchers

(Markotwitz, 2010). "[Vouchers'] potential impact on farmers markets and consequently the improvements in food access in low-income communities is enormous," (Markotwitz, 2010, p. 77).

The West Louisville market was not as successful as the East Downtown market despite the same voucher program and EBT machine availability. Little foot traffic was drawn in due to West Louisville's location far from schools or shopping areas. Difficulty recruiting farmers despite the reimbursement program was also a barrier. While the East Downtown Louisville market averaged 70-100 customers each market day, a sufficient customer base was never established in West Louisville, with market organizers citing lack of community partnership as the largest hurdle. Conversely, the East Downtown Louisville market was located in the parking lot of a middle school, whose principal and community-school coordinator were enthusiastic about the market and marketed it to students and parents (Markotwitz, 2010)

The city of Los Angeles also demonstrated farmers market success through SNAP/WIC acceptance programs. Reulas et al. (2011) studied two low income areas in Los Angeles. Each community was predominantly Latino and African American, with disproportionately high rates of diabetes, obesity, food insecurity, physical inactivity, and low fruit and vegetable consumption. Most residents (87% and 46% in East LA and South LA, respectively) spoke a language other than English at home (Reulas, 2011).

Farmers markets were planned and developed in both communities, as no source of fresh foods existed in a 5 or 13 mile range (East LA, South LA respectively). Separate development, management, and funding processes were employed, with both markets able to accept SNAP/QUEST, WIC and Senior Farmers Market Nutrition Program (SFMNP). During the first two years of each market, customers were randomly asked to take a 15 minute survey in ex-

change for a $5.00 market voucher. Questions covered: when had the respondent begun using the market; how often they came; travel distance; consumption of produce; food insecurity; physical activity; and utilization of WIC/SFMNP.

Results indicated over 80% of consumers at both LA markets were women shopping with children, exposing younger generations to farmers markets as a viable food venue option. In both communities over half of the consumers reported earning less than $15,000 per year. On average, surveys showed 14% of customers planned to spend at least $10, 50% were to spend $15-30, and 13% planned to spend over $30. Eighteen percent of South LA and 27% of East LA respondents used WIC or SFMNP vouchers to purchase foods. Consumers attending each market noted the market reinforced healthy eating and lifestyle habits, and because of the close distance (64% living within a four mile radius) it improved their access to fresh produce (Ruelas et al., 2011).

Few researchers have studied the strengths of farmers markets long-term (Phillips, 2007); though farmer-customer–food connections and the ability to introduce customers to a variety of locally grown foods are examples of potential strengths (Markotwitz, 2010). However, the increased variety of foods present at the market could be a drawback: if customers do not understand how to use the product they are unlikely to purchase it (Markotwitz, 2010). Farmers markets have the ability to cross backgrounds, income differences, and language barriers by bringing healthy food options to the front line of communities and forming partnerships between community agencies (Markotwitz, 2010). Very few farmers markets in low income communities exist. A primary concern relates to farmer uncertainty about their products seeing the same monetary return in low income neighborhoods as in higher income districts (Markotwitz, 2010). Louisville and Los Angeles markets provided examples of how this concern may be lessened through con-

sistency, vouchers, buyouts, and SNAP acceptance programs. Challenges such as marketing, connecting to the consumers, and introducing new foods could be met by using non-traditional strategies.

For example, the manager of the Oregon City Farmers Market went door to door in low-income public housing projects persuading residents to give the market a try. Similar groups in the area offered classes on shopping and cooking on a budget, and participants were brought to the market to show what is in season, followed by a cooking session with available foods (McEwen, 2009). Egleston farmers market in the Jamaica Plain neighborhood of Boston, MA provides bilingual programming such as music and performances to bring together those from many backgrounds (Egleston Farmers Market, 2013). The Maine Federation of Farmers Markets listed suggestions for promoting a market, including a 'Plant Day' where plants were given to the first 10/25/50 customers, gift certificates, coupons/drawings for door prizes, bobbing for apples, mailing coupons to homes in market area, 'meet the author day' with cookbook authors, and 'welcome back' postcards for all of the previous year's customers (Maine Federation of Farmers Markets, 2013).

1.4.2 Farmers Markets in Alaska

The USDA ranked Alaska last in agriculture production of all 50 states. Producing just over $30 million in agricultural products annually (USDA, 2008), in 2010 the state imported 95% of its food (Heifferich & Tarnai, 2010). There were an estimated 500 farms in Alaska, most in the Matanuska Valley. Top agricultural products grown in 2013 were: greenhouse/nursery products, hay, dairy products, and potatoes (Alaska Economy, 2011).

The Alaska Grown Source Book listed 36 farmers markets which operated during the 2013 season, seven in the Municipality of Anchorage (DNR, 2013):

Anchorage Downtown Market and Festival: Saturdays and Sundays (summer only)

Anchorage Farmers market: Saturdays (summer only)

Center Market: Wednesdays (year round) and Saturdays (summer only)

Northway Mall Wednesday Market: Wednesdays (summer only)

South Anchorage Farmers markets: Saturdays (summer only)

South Anchorage Wednesday Market: Wednesdays (summer only)

Spenard Farmers market: Saturdays (summer only)

Other than farmers markets, Alaskan Grown produce is available at select grocery stores in Anchorage. Selection and availability is dependent upon the season. Stores selling local produce include: Carrs, Fred Myer, Wal-Mart, New Sagaya, and The Natural Pantry.

In 2011, the Centers for Disease Control and Prevention (CDC), the Alaska Department of Health and Social Services (DHSS) and Obesity Prevention and Control Program (OPCP) conducted a pilot test bringing EBT machines to two Alaskan markets; at the time only one Alaskan farmers market accepted SNAP/QUEST. The purpose of the pilot test was to determine the feasibility of Alaskans using QUEST cards at farmers markets to make healthy, local foods more accessible to low income Alaskans and provide vendors with new sources of revenue (Peck, 2011). Homer and Spenard Farmers market were chosen to participate during the market season of May-October 2011. Prior to EBT machine installation, SNAP users who purchased foods at the markets could only use cash (Peck, 2011).

Expenses for the program were covered: $9,621 for each market's wireless EBT machines, monthly banking fees, part-time staff person, and miscellaneous needed items, along with $10,400 for advertising expenses (13,000 direct mailings to QUEST clients, printing posters/handouts to community agencies, newspapers and buses) (Peck, 2011).

Objectives of the program included: increase consumption of fruits and vegetables, reduce overweight and obesity, increase the number of markets accepting QUEST cards, increase vendors' revenue from QUEST and debit cards, identify actual costs associated with a farmer's market QUEST program, and identify effective marketing strategies to reach Alaska QUEST recipients (Peck, 2011). A token system for QUEST customers was used for food purchases. Customers received tokens by using their QUEST card at the farmers market information booth. Tokens were used to purchase food items and unused tokens were refunded. Farmers turned the tokens in for money at the end of a market session. The token system was used as sharing an EBT machine between all market vendors was more cost efficient (Peck, 2011).

Findings concluded farmers markets which offer EBT machines increased access to fresh, healthy foods for low income Alaskans and improved access to new sources of revenue for farmers and local businesses (Peck, 2011). Homer and Spenard markets made 224 QUEST transactions totaling $4,830, and 152 debit transactions were made totaling $7,248, both new revenue sources. Over 100 low income Alaskans were provided greater access to local fruits and vegetables. It was recommended to expand the Alaska Farmers market QUEST Program to six markets statewide in 2012, with OPCP budgeting $30,000 for the program (Peck, 2011). As of 2013, four of seven farmers markets in Anchorage accepted SNAP/QUEST: Spenard Farmers market, Anchorage Farmers market, South Anchorage Farmers market and South Anchorage Wednesday Farmers Market. Examples from Louisville, Los Angeles and Alaska show regardless of in-

come, consumers can access fresh, locally grown foods from thoughtfully located and EBT machine-equipped farmers markets.

1.5 Mobile Markets

When put on wheels, farmers markets have an even greater ability to reach populations and neighborhoods with limited access to fresh local foods. Housed in vans, retired city buses, and/or school buses, mobile markets are able to change location daily or remain stationary. The mobile farmers market trend has increased in past years, as city and state health departments found health regulations could be followed (Miller, 2011). Still new to the United States, this researcher identified one published report on mobile markets, reviewing the pilot season of Arcadia Farms Mobile Market in Washington, D.C. (Arcadia, 2013). No major studies determining the long term impact on communities served or profits have been conducted, however a growing body of anecdotal evidence suggests the success of mobile markets in terms of increasing access to fresh food and potential economic sustainability.

The pilot season of Arcadia's mobile market ran from May 2nd to October 31st 2012, with a total of eight stops per week (during the season's peak). The market sold sustainably produced products from Arcadia farm, as well as farms within 80 miles of Washington, D.C. (Arcadia, 2013). Arcadia accepted the following forms of payments: SNAP, WIC vouchers, SFMNP, and cash. The Market offered a 'Bonus Buck' program which provided one extra dollar for each dollar spent with SNAP/WIC/Senior FMNP up to $10. For instance, $10 spent with SNAP resulted in $20 worth of products for the customer (Arcadia, 2013). The market made two- to three-hour stops at regular sites each week. Stops included SNAP offices, WIC clinics, schools, churches

and city parks, Medicare and Medicaid healthcare providers, and senior wellness centers (Arcadia, 2013).

A program evaluation of Arcadia's first season was completed using systematic observation of program activities, field-notes of observation, as well as coding and analysis of field notes to identify emergent themes and attitudinal and behavioral patterns in the collected data (Arcadia, 2013). The evaluation focused on the market's program goals, specifically increased access to fresh produce and education on local foods, farm, food, and health issues. Recorded observations provided evidence the market improved access to healthy, locally-sourced fruits and vegetables for residents visited in Washington D.C.'s Ward 1 and Ward 8, Fairfax County, and Virginia's Route 1 corridor. Evidence also showed the market as an effective educational tool, with a community outreach helping solidify partnerships, and generate community demand for market offerings (Arcadia, 2013). Evaluators concluded the market's future success would depend on continued partnerships, community outreach, support in the form of SNAP, WIC, FMNP, and Bonus Bucks incentives, as some customers' ability to visit the market depended on having food assistance benefits (Arcadia, 2013).

Arcadia operated 90 days in 2012, averaging two stops each day. Average sales per hour (for the season) were $97.82, with higher-impact market stops [stops situated in high population-density areas] bringing in as much as $190 per hour. Gross sales for the season totaled $43,478, including the 30% product markup. More than 40% of sales were SNAP, WIC, Senior FMNP, and Bonus Buck based. In total there were 1,014 SNAP, WIC, and Senior FMNP transactions, averaging $8.44 each (Arcadia, 2013).

The major limitation in the Arcadia case study was difficulty concluding whether behavioral or attitudinal changes were an outcome of educational outreach during market stops, cultural shift in thinking about healthy foods, or environmental impact of consumption and food productions (Arcadia, 2013). Educational outreach was used in Arcadia's market to encourage behavior changes in customers, primarily promoting purchases of fresh foods.

Educational outreach also worked well outside of the Washington D.C. area. By educating potential customers on eating and cooking healthy foods, Real Food Farms (RFF) in Baltimore expanded their clientele. Southeast Baltimore, Maryland, had an annual median household income of $21,448, over $40,000 lower than Baltimore's median. Southeastern Baltimore is located in one of the worst food deserts in the United States (Real Food Farm, 2013). Many residents without personal vehicle access in this region had two options when purchasing fresh foods: bus or walk. Either option took 15-30 minutes one way. In response, the organization Civic Works began operating a food truck, 'Real Food Farm,' (RFF) in 2009. Run by volunteers, the truck drove to communities in the area, stocked with fresh produce. Data on customers served were not available, however RFF has increased the number of stops and neighborhoods visited each year since it began operation (White, 2012).

Real Food Farm accepted SNAP, WIC, and matched the first $5 a customer spent on produce (White, 2012). Real Food Farm volunteers realized the importance of educating potential customers on how to use the foods, seeing increased sales as food-education was introduced. When RFF began seniors were a majority of their customers. "Seniors know how to cook a bunch of greens," says Chissel, "But the same can't be said for the younger generations," (Real Food Farm, 2013). Staff members then began providing education to customers on how to prepare vegetables being sold that day. Real Food Farm also visited elementary schools to educate

children on farming and healthy eating habits. The truck stayed at school until the day was complete, finding when the child was excited about eating produce sold in the truck, adults were more likely to make a purchase (White, 2012). The city of Baltimore found RFF increased food accessibility, educated families on healthy eating, and worked to promote the reduction of obesity and heart disease of its customers (White, 2012).

Mobile markets have improved food access with help from public figures, as seen in Chicago with Fresh Moves. Fresh Moves was founded in 2011 by Chicago residents Steven Case, Jeff Pinzino, and Sheelah Muhammed, and was supported by Mayor Rahm Emmanuel and USDA Secretary Tom Vilsack (Schaffrath, 2012). With intentions to help solve the food desert problem in Chicago, IL, founders realized a traditional farmers market would not meet community needs. As a solution the group created a mobile produce market, using a donated city bus run by volunteers. The market makes stops during the week at senior centers, hospitals, schools, and local parks. In 2011, Fresh Moves won the People's Choice award at the Chicago Innovation awards for strengthening the local economy, improving/encouraging healthy eating habits, and introducing a unique solution to ending a food desert problem in Chicago. With support from Mayor Emmanuel, Fresh Moves added a second bus, helping reach more at-need populations. An official evaluation was not conducted, however founders and staff members reviewed community needs each year, adjusting goals to meet needs (Schaffrath, 2012).

Mobile markets are utilized in rural settings as well. Gorge Grown Mobile Farmers Market in Gorge, OR, delivers fresh produce to rural communities in Oregon and Washington. Gorge's website promotes their mission: 'to build an economically and environmentally sound regional food system that engages, educates, and improves the health and well-being of our community,' (Gorge Grown Mobile Farmer's Market, 2013). Serving communities such as Ste-

venson, WA, Mosier, OR, and Maupin, OR, Gorge focuses on towns which lack access to farmers markets and/or full service grocery stores. The above mentioned towns have a combined population of 2,000, and some residents drive over 40 miles to reach a full size grocery store (Gorge Grown Mobile Farmers Market, 2013).

Gorge's was developed from a community meeting and first ran out of a 1994 Ford box truck. The market was successful enough to make back the $5,000 donated to start the program. The demand for fresh food increased each year, and Gorge hoped to turn a profit during the 2013 season. In 2013, after two successful seasons Gorge expanded with a sprinter van, allowing additional food insecure communities to be served (Gorge Grown Mobile Farmers Market, 2013).

1.6 Mobile Market Potential in Anchorage, Alaska

The Rasmuson Foundation, a private foundation based in Anchorage, Alaska, commissioned a project titled, "Food Security and Local Food Production in Alaska: Status, Challenges, and Opportunities" with researchers at UAA in 2012. The project was designed to identify potential future development and support initiatives to stimulate the expansion of local food options in the state (Donovan and Snyder, 2013).

Key informant interviews were conducted with approximately 50 interviewees who represented a wide range of involvement in Alaska's local food production. Participants included small scale producers, non-profit conservation organizations, tribal organizations, educators, farmers, researchers, and state/government officials. A food security workshop was held October, 2012 involving those who were interviewed, and additional individuals involved in food security issues. Interviews, along with the workshop, were designed to identify activities for improved food production and security within Alaska. Reoccurring interview themes included the

need to increase capacity in: ‘production,’ ‘processing and packaging,’ ‘distributing and retailing,’ and ‘information and education,’ (Donovan & Snyder, 2013).

Theme three, ‘Distributing, Retailing and Demand’ is shown with detail in the following list:

Theme 3: Distributing, Retailing, and Demand
- Getting into new markets
- Promoting local food vendors
- Supporting subsistence distribution
- Supporting education gardens
- Promoting local foods in schools
- Promoting a local food culture
- Supporting local food marketing initiatives
- Promoting K-college education around local food
- Connecting with the faith community
- Promoting a local food festival
- Better utilizing existing resources (e.g. empty planes on return trips from rural Alaska)

As illustrated in the Arcadia and RFF examples, the following needs from Theme 3 are consistent with the typical goals and objectives of a mobile food market.

1. Getting [local food] into new markets:

Mobile markets could offer an opportunity to introduce local foods into neighborhoods with no prior access. As found in the UAA study by Byers et al. (2011), 69% of respondents indicated less than a quarter of their food consumption was from local sources, and 50% of respondents indicated they did not know where to find local foods. Survey results showed a gap which mobile markets may be able to fill by bringing new foods to consumers previously unaware of where to find locally grown foods, or what produce is Alaska grown.

2. Promoting local food markets:

Markets encourage a farmer-customer-local food relationship. Farmers market consumers have been found to value local producers as well as the ability to develop a personal relationship with the grower/farmer. This helped increase loyalty between consumers and farmer(s) (Holdben, 2010)

3. Supporting subsistence distribution:

Making local food accessible throughout the state and working on ways to grow and better live off local foods is important when supporting subsistence communities. As demonstrated in Caster (2011), Alaska's food system is large, with 95% of our food imported from outside the state. Making local foods more accessible and encouraging their growth could take pressure off the state which holds only a three day supply of foods on its shelves (Caster, 2011).

4. Promoting a local food culture:

The more Alaskans who become aware of local food options within their neighborhood, the more local food may be consumed. As shown in Ruelas et al. (2011) more than 50% of customers at the Los Angeles markets planned on spending $15-30. Customers also noted that having a market within close proximity to their homes improved access to fresh (local) produce (Ruelas et al., 2011).

5. Supporting education gardens:

A mobile market could partner with schools to start school gardens. Many positive learning opportunities exist when considering school or education gardens. Roosevelt Middle School

in San Diego, California has had a student maintained garden school for over seven years. Harvest was sold at local markets, to parents, and other students. Carmel Middle School in Carmel, CA incorporated their garden with the science curriculum, teaching organic gardening, habitats and ecology (California School Garden Network, 2014).

6. Supporting local food marketing initiatives:

Marketing initiatives could include everything from mobile farmers markets to money which supports local farming and/or food storage. Ketcham (2007) reported food which stays local generated nearly twice as much income for the local economy as food exported or imported. Keeping locally grown food within the state benefits Alaskans nutritionally and economically.

7. Connecting with the faith community:

Working with faith communities by having mobile market stops on church/synagogue/etc. property would provide an opportunity to reach and educate new populations. Churches were one of the many types of stops that Arcadia's mobile market made each week, establishing partnerships. Arcadia's program evaluation found mobile markets effective as educational tools and a community outreach campaign, with support from such partnerships essential for being successful in the future (Arcadia, 2013).

8. Promoting K-college education around local food:

Mobile markets have partnered with schools to introduce fresh, locally grown foods to students. Real Food Farm educated children by visiting elementary schools and teaching stu-

dents how food is grown, providing samples of the fresh produce (White, 2012). Students excited about what they learned were more likely to encourage parents to buy foods from the market (White, 2012).

Benefits of a mobile market are similar to those of farmers markets, including: energy savings and income generation (Ketcham, 2007). Food transported across the continent requires four times more energy and produces four times the greenhouse gas emissions as locally grown equivalent (Ketcham, 2007). Mobile farmers markets could increase access to local foods by a community, in turn raising the demand for local farmers and producers (Markotwitz, 2010). The ability to link food-insecure populations within the city is a benefit of mobile markets. Unlike grocery stores, mobile markets have the ability to move quickly and carry products throughout the city, focusing on specific areas (Markotwitz, 2010).

Local food has also been known to generate twice as much income for the local economy as imported food (Ketcham, 2007). Young (2011) demonstrated that success of a mobile market could depend on location. Successful locations were those which drew customers to or from nearby areas such as churches, schools, or community buildings. As Arcadia Market learned, even mobile markets in successful locations could encounter challenges.

Mobile markets are still 'new' and have not yet been extensively evaluated. Similar to traditional farmers markets, a mobile market focusing on low-income populations could face challenges such as farmers/market organizer(s) worried monetary return will be less (Markotwitz, 2010). One weakness with this type of food source is regulations which come with having a truck/bus cooking and serving food. Health officials in cities/states are learning how to regulate sanitation, public health, and vending permits. Parking tickets, safety concerns for people congregating near street-parked trucks, and permits allowing venders to wander certain zones

within a city are issues which can cause challenges (Gustin, 2010). Additional mobile market specific challenges were discussed in Arcadia's end of year report (2013): parking for market stops, specifically if power is needed; a home base for overnight parking as well as storage for foods; excess food storage; and planning market stops to allow for maximum stops and minimum time spent in traffic each week (Arcadia, 2013). Such challenges were taken into account when thinking about Anchorage's target neighborhood: Mountain View.

1.7 Target Neighborhood for a Mobile Farmers Market

According to the 2010 Census the population of Anchorage was 291,826, i.e., 42% of Alaska's population. The median household income in Anchorage was $72,832, with per capita income being $34,678 (US Census, 2013). Twelve neighborhoods in Anchorage had an average household income lower than Anchorage's average of $72,832:

Turnagain Arm: $35,122
Fairview: $36,554
Downtown: $38,161
Mountain View: $40,894
Government Hill: $44,483
Midtown: $45,478
Russian Jack Park: $50,844
Spenard: $52,086
Airport Heights: $56,239
North Star: $58,057
Northeast: $64,903
University Area: $67,510

Anchorage households receiving SNAP benefits in the past 12 months totaled 9,190, or 10.2% of Anchorage residents. Of these households, 73.5% had children under the age of 18 (US Census, 2013). Liza Root, Masters of Public Health student at the University of Alaska An-

chorage created a map of Anchorage household food stamp/SNAP beneficiary use using geographical information systems (GIS), which considered food accessibility and the relationship to socio-economic disparities in the food environment (Root, 2014). The GIS approach provided a format to analyze social, economic, and physical relationships through a spatial lens (Pothukuchi et al., 2004). Through key informant interviews Root identified a vulnerable population, children under the age of 18 (Root, 2014). Utilizing U.S census bureau data, GIS analysis helped determine where these individuals resided in Anchorage (Root, 2014).

Root (2014) then used neighborhood census tracts, socioeconomic data and GIS and produced Figure 1, showing the number of household SNAP/food stamp beneficiaries with children under the age of 18, by neighborhood in Anchorage. Neighborhoods in dark orange had the highest number of household SNAP users. Root's findings show limited access to local food among food stamp beneficiaries, while the average distance to a grocery store via bus routes range from one to two miles for neighborhoods throughout Anchorage (Root, 2013). Households with fewer SNAP beneficiaries were shown in light orange. Figure 1 indicates neighborhoods with higher SNAP usage are located in the northern part of Anchorage, with the exception of two neighborhoods in South Anchorage.

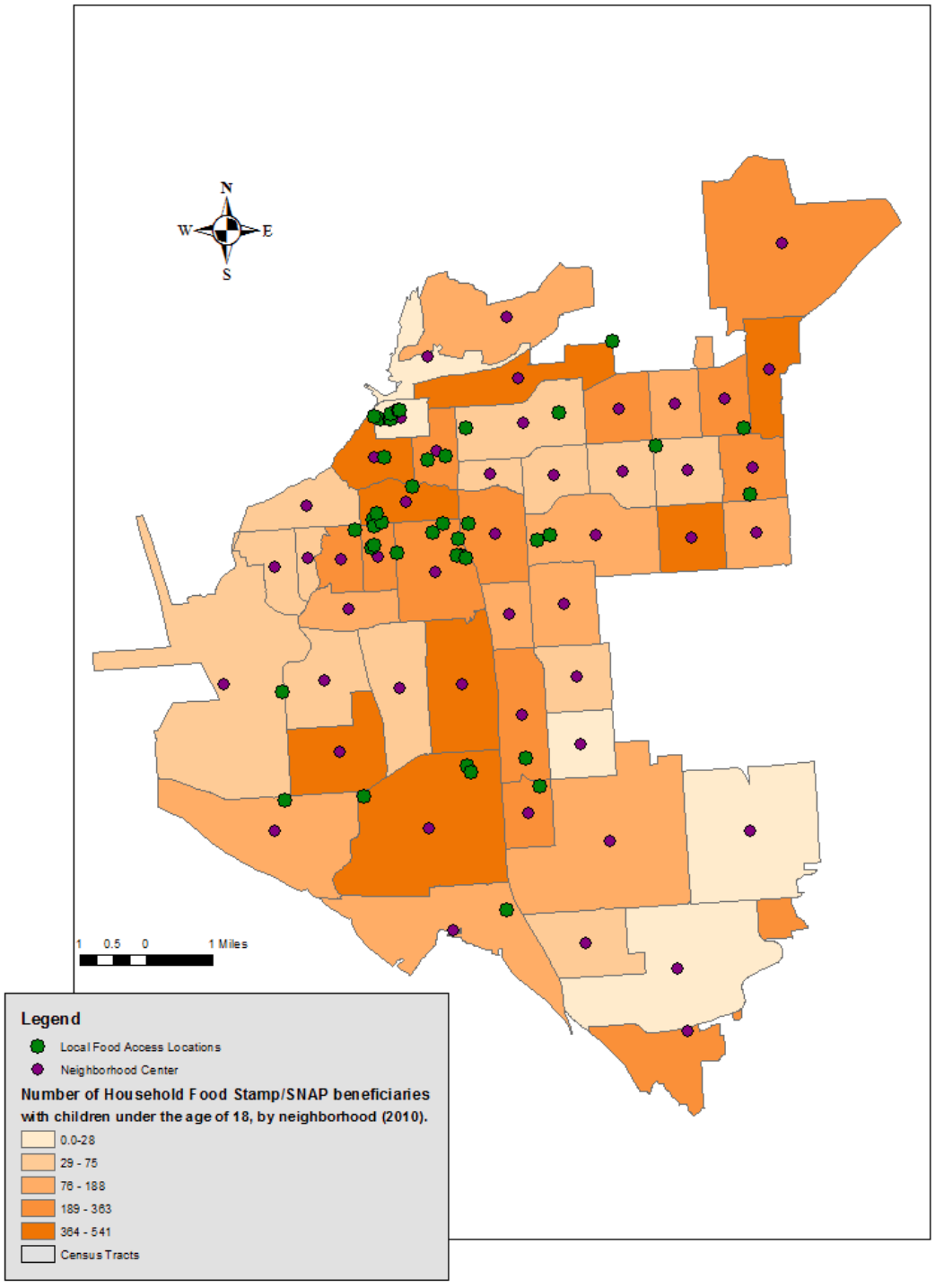

Figure 1. Number of Household Food Stamp/SNAP Beneficiaries with Children Under the Age of 18 by Neighborhood (Root, 2014).

Located in the northeast section of the map in Figure 1, zip code 99508 is recognized by the Alaska Division of Public Assistance as having the most SNAP beneficiaries as of January 2013, with 3,288 persons on SNAP (Alaska Division of Public Assistance, 2013). This zip code contains four neighborhoods: Mountain View, Airport Heights, Russian Jack, and University. These neighborhoods have incomes under the Anchorage median as well, providing additional reasons to identify neighborhoods within this zip code as most likely to benefit from a mobile market.

Title 1 schools provided more information on neighborhoods and need. A federally program, Title 1 provides supplementary funding to improve academic achievement for low-income students (ASD, 2013). States, districts, and eventually schools obtain funding based upon the number of low income students, specifically the percentage of students who qualify for free or reduced lunch (ASD, 2013). Title 1 schools focus on closing the achievement gap between high and low performing children. Funding can be used for education and/or developmental needs such as: family/parent involvement, classroom interventions, tutoring, family/school service coordinators (ASD, 2013).

Title 1 Schools, although additionally funded, are not immune to financial setbacks. The Anchorage School District faced a $23 million gap in the 2014-2015 budget, which resulted in a layoff of 143 classroom teachers, along with 19 counselors working with the gifted, special education and/or English-as-a-second-language program. Budget cuts and teacher layoffs resulted in increased classroom sizes at elementary schools (Boots, 2014).

Bartlett High School English Language Counselor, Tina Bernoski was concerned about students because of the cut in counseling positions. “Many of my students do not speak English [as a first language] and do not have a parent that speaks English. We are the case managers, the

refugee liaisons, the immigration collectors and the parent to communicate with," (Eaton, 2014). Teacher and/or counselor cuts within Title 1 schools challenge teachers and schools already working with disadvantaged students.

During the 2013-2014 school year minority students comprised more than 50% of the Anchorage School District's (ASD) student population (ASD, 2013). Anchorage School District student makeup consisted of White (46%), Asian/Pacific Islander (15%), Multi-ethnic (13%), Hispanic/Latino (11%), Alaska Native/American Indian (9%), and African American/Black (6%) (ASD, 2013).

Mobile market neighborhood selection related to Title 1 Schools in Anchorage as these schools were already working within disadvantaged communities and populations. Schools with Title 1 funding often serve children from households below poverty level, with limited English skills, and/or children from multiple backgrounds and cultures (ASD, 2013). Schools already working with these populations may be especially supportive of a mobile market that could better serve their student's households.

Anchorage had 22 Title 1 schools as of September, 2013. Table 1 indicates 19 schools located in neighborhoods with median household incomes under the Anchorage average of $72,832 (City Data, 2009).

Table 3. Title One Schools Located in Neighborhoods with Average Household Incomes under Anchorage's Median Household Income of $72,832

Northeast	Nunaka Valley Elementary School Chester Valley Elementary School Muldoon Elementary School Creekside Park Elementary School Begisch Middle School
Russian Jack	Russian Jack Elementary School Williwaw Elementary School Ptarmigan Elementary School Wonder Park Elementary School
Mountain View	Tyson Elementary School Mountain View Elementary School Clark Middle School
Spenard	Northwood Elemetnary School Willow Crest Elementary School
Airport Heights	Airport Heights Elemantary School
Northstar	North Star Elementary School
University Area	Lake Otis Elementary School
Government Hill	Government Hill Elementary School
Fairview	Fairview Elementary School

In 2013, University and Airport Heights neighborhood each had one Title 1 school, Mountain View had three, and Russian Jack had four. Each of these neighborhoods is located within the 99508 zip code. Mountain View and Russian Jack neighborhoods are prime potential mobile market communities as each neighborhood has average household incomes under the Anchorage median, high household SNAP usage, and multiple Title 1 schools. Of the two neighborhoods, Mountain View seems to have the most established partnerships working to improve and rehabilitate the area. Organizations such as Anchorage Community Land Trust, Cook Inlet Housing Authority, Credit Union 1 and the Rasmuson Foundation have worked within the Mountain View community for many years, increasing available knowledge, partners and support for a new business entering the region.

1.8 Neighborhood focus: Mountain View

1.8.1 Background

Mountain View Community Indicators (MVCI) is a report authored by Anchorage Community Land Trust (ACLT) and Cook Inlet Housing Authority (CIHA). The report established baseline data for revitalization work which began in 2004. The report covered four community indicators: Economically Stable Families, Educated Youth with Access to Meaningful Opportunities, Safe, Clean and Vibrant Community, and a Strong Local Economy (MVCI, 2012).

One of the first established communities in Anchorage, Mountain View is located northeast of downtown Anchorage. Surrounded by Joint Base Elmendorf-Richardson to the north and the Glenn Highway to the south, its western boundary is Ship Creek, with an eastern boundary of Davis Park. Mountain View is approximately 1,000 acres, or 1.7 square miles (MVCI, 2012). Alaska's population increased during World War II, helping develop Mountain View into a community with sidewalks, alleys and mountain views. There was a general store, post office, restaurants, and cigar stores. It was described as a 'subdivision near Anchorage, progressive, up to date live-wire community that had its own community center and social life," (MVCI, 2012)

During the 1970s an influx of workers associated with the Trans-Alaska pipeline needed places to stay and changed Mountain View's social landscape. A need for housing at low-cost and zoning changes throughout the next 20 years led to the construction of 4-plex multi-family rental properties, resulting in a transient community (MVCI, 2012). The neighborhood still retained its views and location; however the increase in multi-family homes and transient population impacted the stability and ownership of the neighborhood. Crime increased, school

performance declined, businesses and financial institutions left, and property values declined. Mountain View became the last choice for residents in Anchorage (MVCI, 2012). Revitalizing Mountain View into a Community of Choice (2004) described three paradigms which shaped Mountain View in the 1990s and early 2000s: prevailing acceptance of Mountain View as a neighborhood of poverty, lack of commitment to neighbors as key change agents, and reliance on large projects, such as shopping centers, to bring positive changes to the community (CZB, 2004).

The community mobilized to regenerate the neighborhood in early 2000, forming a community council and finding partners to become involved in social and economic revitalization. Cook Inlet Housing Authority (CIHA), Anchorage Community Land Trust (ACLT), and their partners worked to make improvements such as: public investments, office developments, demolition of blighted property, and construction/renovation of properties to provide affordable and high quality homes (MVCI, 2012). "Mountain View will not recover as a neighborhood of choice unless there is a clear commitment to do things differently," (CBZ, 2004).

1.8.2 Present Day

As of 2012, 8,317 people called Mountain View home. A University of Alaska professor recently noted Mountain View was the most racially diverse census tract in the country; 27% White, 18% Asian, 17% Alaska Native/American Indian, 14% Black, 11% Hawaiian/Pacific Islander, and 5% identifying as other (Alaska Economic Trends, 2013). Alaska Economic Trends (September, 2013) reported significant population growth in Mountain View between the years 2010-2012, gaining more than 500 residents. Three public schools, Mountain View Elementary,

William Tyson Elementary, and Clark Middle School enable neighborhood children to attend school within the community (MVCI, 2012).

More than one in five people in Mountain View were living below poverty level as of 2012 (MCVI, 2012). Only 11% of households had annual incomes over Anchorage's median income of $72,832 (Alaska Economic Trends, 2013). Owner occupancy rates in Mountain View were 18%, the lowest of all census tracts in Anchorage. Residential vacancy rates reduced from 20% to8% between 1990 and 2012, resulting in fewer residential units available for low-income renters (MVCI, 2012).

Residential and business development added to the revitalization effort in Mountain View throughout the past decade. However, since 2000 CIHA demolished over 120 blighted buildings and redeveloped 179 blighted properties into new housing facilities, and new construction added 218 single family and multi-family homes to Mountain View. Businesses such as Mountain View Service Center, GCI and Credit Union 1 opened, Clark Middle School was renovated, and the Municipality of Anchorage built a new library and police substation (MVCI, 2012). Additional affordable housing options for Mountain View residents continue in 2014.

The Alaska Housing Finance Corporation (AHFC) is to build 70 new housing units on the corner of Mountain View Drive and Taylor Street. Construction began in Spring 2014, at the cost of $23.9 million (Kelly, 2014). AHFC aims to house seniors and families in the units, operated by Cook Inlet Housing Authority. Monthly rents are to range from $947 for one-bedroom units, to $1,203 for a two bedroom unit. Jewel Jones, director of Anchorage Community Land Trust sees continued need for public housing within the Municipality. "The need for affordable housing reaches every part of the community. To have Mountain View at the center of more housing is the right thing to do," said Jones, (Kelly, 2014). In addition, the Rasmuson Foundation

donated funding to construct a community resource center to be located within the new development. The center is to provide after school care and job training to residents of not only the new units, but the Mountain View community (Kelly, 2014).

When compared to the entirety of Anchorage, households in Mountain View have fewer vehicles and rely more on walking and public transport**.** Despite low vehicle-ownership within the neighborhood, 19,000 vehicles pass through the intersection of Mountain View and Commercial Drive each day. Traffic counts can be a valuable indicator of potential market demand for commercial spaces and business opportunities (MVCI, 2012).

1.8.3 Access to Transportation

The number #45 bus route was the most utilized in Anchorage in 2013—departing from the downtown transit center continuing through Mountain View, to the Northway Mall, UAA/Providence district, and Alaska Native Medical Center (Rose, 2013). The People Mover bus stops with the highest on/off counts per day were located in Mountain View on the west side of the Mountain View Drive/Bragaw intersection (109/31 on/off per weekday), followed by a stop on the north side of the same intersection (66/144 on/off per weekday). These bus stops are across the street from Clark Middle School, Mountain View Public Library, Mountain View Health Center, and Red Apple (People Mover, 2013).

In 2014, Anchorage Mayor Dan Sullivan proposed a new 8.2 million transit center hub for People Mover, funding approval to be decided by the Alaska Legislature. The proposed land for the new transit center, behind Z.J. Loussac Library, is an 8-acre parcel large enough to accommodate 12 People Mover buses. As of January, 2014, the main transit center was located downtown on Sixth Avenue and H Street (Edge, 2014), and was able to hold three-four buses at

one time. "The move of the transit center would make more geographical sense for those changing routes from east and south Anchorage," Sullivan said (Edge, 2014).

According to the Municipality's Department of Public Transportation, the proposed bus hub would not result in downtown losing People Mover service (Edge, 2014). However, concern was raised that moving the bus hub from downtown would lessen walkability to the hub, negatively affecting bus ridership or changing current bus routes (Edge, 2014). Mountain View residents do not have many options for purchasing fresh foods within the neighborhood, making public transportation essential for those without their own vehicle access.

1.8.4 Food Access

In December, 2013, Mountain View had one grocery store, Red Apple, along with two smaller markets, Thai Market and New Asian Market. Red Apple provided the most fresh fruit and vegetable selection of the three. When comparing yellow bananas and Granny Smith apples at Red Apple to the closest Fred Meyers (located at Muldoon and Debarr) and Carrs (Northway mall location), produce prices at Red Apple were found to be slightly more expensive than at the closest Fred Meyers and competitive with Carrs. Yellow bananas, non-organic, were .99/lb at Red Apple, .89/lb at Fred Meyers, and at .89/lb Carrs. Granny Smith Apples, non-organic: $1.79 at Red Apple, $1.48 at Fred Meyer, and $1.99 at Carrs (S. Seidner, personal communication, Feb 13th, 2014).

Thai Market and New Asian Market offered a smaller selection of fresh produce, although not consistent in quality. Fast-food options in Mountain View included McDonalds and Subway. Sit down/take out restaurants included: Alaska Pho Restaurant, Jamicos Pizzeria and

Restaurant, Mekong Polynesian Restaurant, Hula Hands, Matties Ploynesian Style, Tempura Express, and Sheng's Bistro.

1.9 Theory of Planned Behavior and Social Cognitive Theory

The theory of planned behavior (see Figure 2), developed by Icek Ajzen, is an extension of the theory of reasoned action (Ajzen, 1991). Central to the theory of planned behavior is intention, specifically a person's intention to perform a given behavior. Ajzen argues intentions are assumed to capture motivational factors which influence behavior, and are an indication of how hard people are willing to try, or the effort they're willing to make, to perform the behavior. The stronger the intention, the more likely its performance. However, even if intention is there, other factors may play a role in the eventual performance/non performance. As Ajzen states, "The performance depends, to some degree on such non-motivational factors as availability of requisite opportunities and resources (e.g. time, money, skills, cooperation of others)," (Ajzen, 1991).

Another aspect to the theory of planned behavior is perceived behavioral control. Perceived behavioral control focuses on whether a person perceives the behavior as easy or difficult. Studies have shown people's behavior is strongly influenced by their confidence in the ability to perform a behavior (Ajzen 1991). Therefore, perceived behavioral control is a factor influencing intention *and* behavior (Institute of Medicine, 2002).

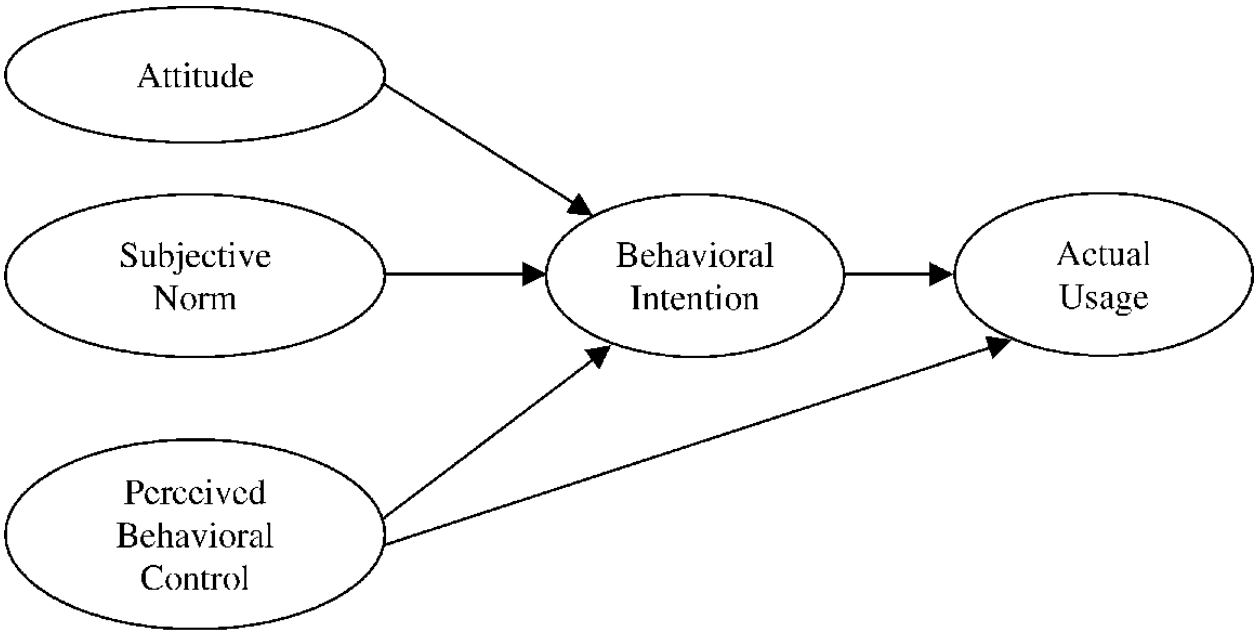

Figure 2. Theory of Planned Behavior (Ajzen, 1985, 1991, 2002)

Purchasing fresh fruits and vegetables is behavior supporting healthy eating, and demonstrating smart food choices. According to the theory of planned behavior, the more a person wants to purchase fruits and vegetables the more likely they will find a way to do so. However, if a barrier is in the way such as non-motivational factors time, money, skills, or cooperation of others, a person's perceived behavior control will lessen, making intention decrease. A mobile market catering to all incomes and populations may be able to increase intention, by reducing barriers (non-motivational factors) such as price, location/distance, and time. Reduction of barriers was been noted in Louisville, KY. East Louisville market was able to reduce barriers such as distance, time, and money. The market was located centrally so many customers could walk or take public transportation. Vouchers for WIC recipients as well as EBT machines were provided, allowing customers on assistance plans to shop at the market without restrictions (Markotwitz, 2010). As a result of barrier reduction the market was successful, with each farmer's stand

selling an estimated $125 on Saturdays. The farmers reported they enjoyed selling at the market, and customers were appreciative of greater access to fresh fruits and vegetables (Markotwitz, 2010).

Social cognitive theory (SCT), on the other hand, was developed in the field of health promotion and disease prevention. Developed by Albert Bandura in 1986 and originally part of the social learning theory of the 1960s, SCT specified a set of core determinants: knowledge of health risks and benefits of different practices, perceived self-efficacy in which a person could exercise control over their own health habits, outcome expectations of the costs and benefits of different health habits, health related goals which people set for themselves, and perceived facilitators needed to make these changes (Bandura, 2004).

The social cognitive theory (see Figure 3) integrates personal factors, environmental factors and human behaviors, with a goal of explaining how people regulate behavior through control and reinforcement to achieve goal-directed behavior which can be maintained over time. Differing from other theories, SCT emphasizes that individuals are agents engaged in their own development and changes, "what people think, believe and feel affects how they behave," (Bandura, 2004).

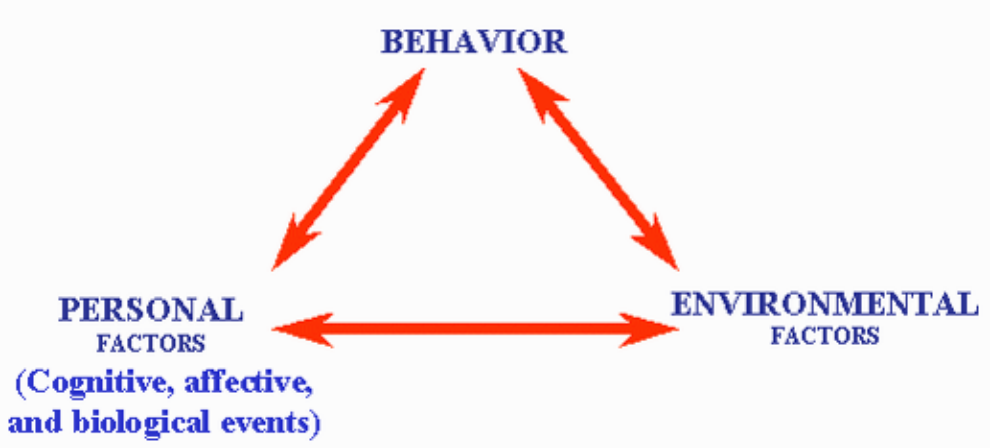

Figure 3. Social Cognitive Theory

Social cognitive theory is linked to health behaviors, as health behaviors can be affected by outcomes people expect their actions to produce. Bandura (2004) stated unless people believe they can produce desired effects by their actions, there is little incentive to act or to persevere during difficulties. If individuals do not feel they can control their health behaviors, there is no motivation to change their original behavior or continue when challenges are faced. As health behaviors are adopted, changes in the person, as well as their environment occurred (Bandura, 2004).

Radio drama "Twende na Wakati," which began airing in 1993 throughout Tanzania used social cognitive theory to educate listeners on topics ranging from HIV/AIDS to the prevention of unplanned pregnancies. Similar radio and television series, or 'entertainment-education' programs could be listened to and viewed around the world, each featuring characters who modeled ways to improve their lives, with the goal of improving viewer's self-efficacy. As viewers modeled the character in the TV or radio program they began changing their health behaviors, in turn also changing the health environment within that community (Smith, 2002).

Social cognitive theory could be applicable to a mobile market scenario by increasing self-efficacy of its customers and their ability to purchase fruits and vegetables. Encouraging participation in a mobile market and showing the accessibility and ease in making these purchases would overcome negative outcome expectations in their ability to purchase such foods. As food purchases are made and found to be accessible and easy, changes in customers environment could occur, such as increased nutrition in the home. Ideally, the behavior of purchasing fruits and vegetables could become sustainable and ongoing, as they would be found easy to accomplish with the help of a mobile market.

Chapter 2 Research Goals and Methods

2.1 Research Goal and Aims

The goal of the proposed project was to provide information to help improve food security in Mountain View, a neighborhood located in Anchorage, Alaska. This project aimed to compile information for a mobile farmers market that could: 1) increase access to, and utilization of, fresh, healthy, and affordable food for Mountain View, and 2) create positive relationships between local food and disadvantaged populations. Research questions and objectives are shown in Table 2.

Table 4. Research Questions and Objectives.

Research Questions	Objectives
What are food-security needs of residents in Mountain View?	Interview community partners involved in Mountain View's food system to identify populations served and challenges faced with regard to food access
What is needed to improve access and utilization of fresh fruits and vegetables for these populations?	Interview community partners involved in Mountain View's food system to identify populations served and challenges faced with regard to food access Determine applicable laws and regulations for a mobile market in the Anchorage municipality
How could a mobile market address local food access and utilization could needs in Mountain View? **Sub questions: What foods should be sold? What should the prices be? Where should the mobile market go? At what times? Who could be the community partners? How could the mobile market be financially sustainable?**	Identify available grants which could support a mobile market Survey potential mobile market customers to identify how a market would be best utilized

Chapter 3 Methods and Analysis

Primary data collection focused on how to best serve the Mountain View community through a mobile market, using key informant interviews and a survey of potential market customers. Data were analyzed using thematic analysis, which focuses on identifying themes and patterns in collected information, and descriptive statistics. Secondary qualitative data were collected through existing research on local foods in Anchorage, available information on funding, and business licensing considerations.Data collection was completed by December, 2013.

3.1 Key Informant Interviews

Three key informant interviews were conducted. Benefits of key informant interviews included: the ability to connect with community leaders who work with potential mobile market customers, introducing interviewees with the mobile market concept, convenience of interviews, simplicity, and (lack of) expense. Interviews were conducted via phone or in person, depending on interviewee location.

Interview questions (see Appendix A) regarded Anchorage food insecurity and access (barriers, hurdles, and population demographics), mobile market information, and organization-specific questions regarding community involvement. Interviewees included representatives from FBA, ACLT, and Credit Union 1.

Key informant interview questions pertained to the following objective:

1. Interview community partners involved in Mountain View's food system to identify populations served and challenges faced with regard to food access

3.2 Customer Surveys

At the suggestion of ACLT, the researcher was stationed at a 2013Mountain View Block Party (with permission obtained by event organizer), and recruited respondents as persons walked by, or if the researcher was approached. Eligible survey participants included any person living or working within Mountain View including all genders, backgrounds, and ages (with the exception of minors). Participation was voluntary with no risk to those who declined. The survey consent form and questions are provided in Appendix B.

Potential mobile market customers were asked the following questions:

1. If a mobile farmers market came to Mountain View, what produce would you like to see sold?
2. What times of the day would work best for you to access the market?
3. Where are places you visit daily/weekly where it would be convenient for a market to be located?
4. How much does your household spend on fresh fruits/vegetables each week?

Potential customer survey questions addressed the following research objective:

1. Survey potential mobile market customers to identify how a market would be best utilized

3.3 Available Grants

Funding a mobile market could be challenging, as the researcher learned that a budget of $25,000-$30,000 would be needed for the development of a mobile market (Arcadia, 2013). Helping fund the market through grants would relieve the pressure of fundraising through the community or relying on a business manager to pay start-up expenses out of pocket. Many grant

opportunities were found by searching federal, state and local resources, each applicable to a mobile farmers market operation. Potential market funding covered the following research objective:

1. Identify available grants which could support a mobile market.

When researching funding opportunities this researcher took into account who could apply for funding, as grants should ideally be applicable to any person or business starting the market. Grants of particular interest were not one-time funding opportunities, had annual or rolling deadlines, and were appropriate and flexible for all market types (i.e., not restricted to traditional farmers markets).

Funding opportunities were found by searching state websites related to farmers market and EBT/QUEST funding. Federal websites were anticipated to provide financial opportunities for farmers markets, and Alaska-based foundations for businesses and/or community projects.

3.4 Legal Considerations

The following research covered objective:

1. Determine applicable laws and regulations for a mobile market in the Anchorage municipality

As the mobile market would be a new business operation, specific legal obligations would need to be met, such as: license and insurance requirements, business and health permits for the structure and employees, as well as overall health and safety responsibilities of running a small business. The Municipality of Anchorage website was used to locate information and forms regarding permits for health and business, license applications, and specific mobile market

information. Contact was made to Health Specialists within the Municipality to confirm permit exemptions which may apply to a business such as a mobile farmers market, as well as to confirm permit needs.

3.5 Protecting Human Subjects

The protection of human subjects was of top priority in this research, and the research proposal was submitted to the UAA Institutional Review Board for approval. Data were gathered during a community event in Mountain View with verbal consent from volunteer participants. Key informant interviewees and survey respondents were informed of the study's purpose, and that participation was voluntary with no consequences if they refused participation. Survey respondents were anonymous, with data compiled so no person could be identified. Data were kept in a secure cabinet at researcher's residence, with primary data being destroyed within two years after collection. There were no foreseeable risks, harm or discomforts to participants.

Chapter 4 Results

4.1 Key Informant Interviews

4.1.1 Food Bank of Alaska: Sandy Mitchell

The Food Bank of Alaska (FBA) was established in 1979 to "eliminate hunger in Alaska by obtaining and providing food to partner agencies feeding hungry people through anti-hunger leadership" (FBA, 2013). As of 2010 over 100,000 clients were being served each year through 110 pantries, 41 kitchens, 27 shelters and 133 nonemergency food programs. The FBA is not federally funded and relies on state grants and donations (FBA, 2013). Among Alaskans who utilize the Food Bank, 31.7% of households had to choose between paying for food and paying utilities at least once in the past 12 months, 24.8% had to choose between food and paying rent/mortgage, and 32.0% had to choose between food and paying for medicine or healthcare (FBA, 2013).

Key informant Sandy Mitchell, Program Coordinator for the FBA and Mobile Food Pantry (MFP) provided information regarding barriers to food security seen through FBA clients within the Municipality of Anchorage.

The FBA has run a Mobile Food Pantry since 1998, currently operating seven MFP stops at different locations throughout the week in Anchorage. Stops included churches in the Jewel Lake, Mountain View, Turnagain, Debarr and midtown neighborhoods, as well as Fairview Recreation Center and Muldoon Community Assembly. Mitchell (2013) states, "Many of the clients were part of the working-poor, persons who work but incomes fall below poverty line. The mobile pantry is a social event, especially during the winter, where clients feel safe and comfortable regardless of their financial situation."

The MFP is run by volunteers, FBA staff supplies and fills trucks with donated food and sends the truck to the pantry location. Once there, volunteers unload the truck and set up the pantry, which is typically outside. Clients typically arrive at MFP locations 30 minutes prior to pantry opening, receive a number, and line up according to their number. Clients provide name, address, and number of people in household. Each client receives the same amount of food to expedite the process, however, if food is available additional trips through the line are possible. Common MFP food items include produce, dairy, breads and other perishables (Mitchell, 2013).

Common barriers to food security for FBA customers included weather, language, and lack of food education. Mitchell mentioned winter weather being a particular concern for those with no means to shovel or plow their driveway/homes. Customers with no vehicle access must find a way to access bus stops in winter weather, made more challenging for disabled or elderly clients. Even clients with vehicle access may not have a support system to help shovel and may be homebound until someone is able to assist. Food Bank of Alaska sees language barriers overcome with family members or other clients who translate for those with limited English fluency. To combat the barrier of education, MFP started providing pamphlets and recipes educating customers on products offered at the pantry (Mitchell, 2013).

Since the mobile food pantry began its location in Mountain View in 2009, over 17,742 households (62,461 individuals) have been served, providing households with 748,105 lb of food (Mitchell, 2013). As of December 2013, Mountain View's mobile pantry stop was the most frequented of seven MFP stops and its numbers for August and September, 2013 are shown in Table 3. Mountain View's mobile pantry is compared with First Christian Methodist Episcopal Church's pantry stop for context.

Table 3. 2013 Mobile Food Pantry Statistics: Mountain View

Month/Year	**July 2013**	**August 2013**	**July 2013**
Market Location	Mountain View	Mountain View	CME Church Mid-town
MFP Stops	4	5	2
Households served	378	529	88
Persons Served	1,249	1,828	100
Pounds food distributed*	18,003	14,953	4,954
Pounds food per household*	48.4l	28.3	56.l
Pounds food per person*	14	8.2	49

* Amount of food is dependent on that month's donations

When asked about the future of the FBA, Mitchell mentioned gaps throughout the Anchorage Municipality which FBA, if given funding would like to see covered with their services. Government Hill and neighborhoods in South Anchorage are priorities. If a mobile farmers market was successful in Mountain View it could relieve pressure off the mobile food pantry's Mountain View location. A successful mobile farmers market could result in fewer residents accessing the MFP, creating opportunity to expand the Food Bank's mobile pantry to other parts of the city (Mitchell, 2013).

When asked about the possibility of a successful mobile farmers market in Mountain View, Mitchell mentioned how consistency was important to the community. "The hours [of the market] don't matter, but the market must be there at the time given, showing everybody is important," says Mitchell (Mitchell, 2013).

4.1.2 Anchorage Community Land Trust: Kirk Rose

Kirk Rose, of Anchorage Community Land Trust (ACLT) based in Mountain View, was a second key informant for this project, giving insight to the population and community of Mountain View. Anchorage Community Land Trust launched in 2003 with a seed grant from the Rasmuson Foundation. The organization was formed to develop healthy and prosperous communities in Anchorage, and made a decision to target a geographic area of high need; Mountain View (ACLT, 2013). Anchorage Community Land Trust acquired property to promote community development, improve the quality of life for Mountain View residents, and currently invests in sustainable economic and community development projects (ACLT, 2013).

When asked to describe the demographics of Mountain View and customers of ACLT, Rose portrayed an international community with backgrounds of Polynesian, Alaska Native, Hmong, and East African descent among many. The community of Mountain View consists of persons and families in transition, as well as refugees and military personnel. Mountain View remains convenient for families in transition, as rent is typically low (Rose, 2013).

According to Rose, convenience is key to food security in Anchorage, as an estimated 70% of Mountain View residents do not have access to a vehicle. Red Apple has been successful in Mountain View because of its convenience to those relying on public transportation or walking (Rose, 2013). A mobile market could benefit the community as it would make it possible to buy food without having to get on a bus or walk many blocks. Rose believes the success of a mobile market would depend on its reliability, as Mountain View has seen many 'broken promises' in the past (Rose, 2013).

4.1.3 Credit Union 1: Leslie Ellis

CEO of Credit Union 1 (CU1), Leslie Ellis began looking for a Mountain View branch location in 2007, settling on the Northeast corner of Mountain View Drive and Bragaw Street. At the time, Mountain View hadn't had a financial institution in over 20 years. It took three years of planning, removing unusable soils, and building connections within the Mountain View community for CU1 to be fully recognized (Ellis, 2014). Ellis and partners attended community council meetings to establish a relationship of trust, as the neighborhood had a history poor follow through from businesses and corporations in the past. Through community meetings CU1 determined the needs of the branch and the community (Ellis, 2014). This included a community room and police sub-station, which the neighborhood did not have. The municipality rented the sub-station for $10 a year. At branch opening in 2010, the community supported and recognized the work CU1 would continue to do for the area (Ellis, 2014).

Since branch opening three and a half years ago, the Mountain View location was 5th of 15 in Anchorage for volume, and is the only branch which has not experienced any vandalism or unrest common in Anchorage branches (Ellis, 2014). The covered bus stop which Ellis petitioned with the city to have located in front of the branch has also experienced no issues. A bus stop in a location convenient to the bank was important for success as many residents lack vehicle access (Ellis, 2014).The bank's cliental are extremely diverse which prompted a bilingual initiative which CU1 has promoted, accomplished by hiring community residents who speak Spanish, Hmong, and other languages represented within the neighborhood (Ellis, 2014).

Ellis has seen food insecurity firsthand throughout Mountain View. For example, many branch events offer free foods such as hot chocolate, cookies, or sandwiches. "Local children are always coming in to eat and carry out as much food as they can get," says Ellis. Similar events

such as art openings, where free food and/or appetizers are offered, have been a draw for children in need of food. Seeing children come to the bank for free food showed Ellis the lack of food security within the community (Ellis, 2014). In response, Ellis established a partnership with Mountain View elementary, volunteering with the school's backpack program providing backpacks filled with foods for children in insecure households to bring home each weekend. Credit Union 1 also organized the summer Mountain View Block Party which provided a space for venders and community organizations to reach out/connect to residents of Mountain View. CU1 sells lunch-time meals for $0.50 at the event, including fruit such as apples and oranges (Ellis, 2014). Originally food planned to be offered at no-cost, however after working within the community it was clear residents felt pride in paying. The meals were then priced at $0.50. Each year the fruit was depleted half-way through the event. Ellis believed this was because fruit is expensive and a luxury for much of the community (Ellis, 2014).

When asked about the prospect of a mobile farmers market, Ellis stated companies who make the decision to open a businesses in Mountain View were going to find 'a lot of positive things' within the community (Ellis, 2014). She suggested speaking with GCI, as their new Mountain View store has been successful, and Wells Fargo, which promoted Children's Lunchbox and provided a lighting grant for the neighborhood. Ellis also mentioned that CU1 could provide support in advertising and/or marketing for the mobile market (Ellis, 2014).

Key informant interviews were productive in establishing connections within the Mountain View community through organizations already successfully integrated with the population. Food insecurity information such as barriers to food access were able to be established, along with a picture of the diverse makeup within the target neighborhood. A noted weakness of interviews, however, included lack of input from potential farmers selling their products through the

mobile market. This was the result of data collection during harvest, making it difficult to find farmers with available time for interviews.

4.2 Consumer Surveys

Thirty potential market customers were surveyed, with results shown below. Data collection occurred at the Mountain View Block Party, June 26th, 2013. After data were collected the researcher summarized the findings by using descriptive statistics (see Appendix C). Survey results are shown in bar graphs below.

Question 1: If a mobile farmers market came to Mountain View, what produce would you like to see sold?

Answers for question one consisted of foods which could be grown within Alaska, produce not grown in state, and non-produce items. Three graphs were created, each representing a different category: Alaska grown produce (i.e. produce that can be grown in-state; not necessarily produce carrying the official "Alaska Grown" label), produce grown outside of Alaska, and non-produce specific responses.

As shown in Figure 4, results for Alaskan grown produce were diverse: greens (such as lettuce, kale, chard) were mentioned by nine respondents, followed closely by apples and corn, each mentioned six times. Respondents wanted to see fruits such as apples, berries and tomatoes, as well as produce such as carrots, beets, potatoes, legumes (peas and green beans), cauliflower, celery and cucumbers. Respondents were encouraged to name foods they would like to see a mobile market sell. This resulted in multiple answers having one response.

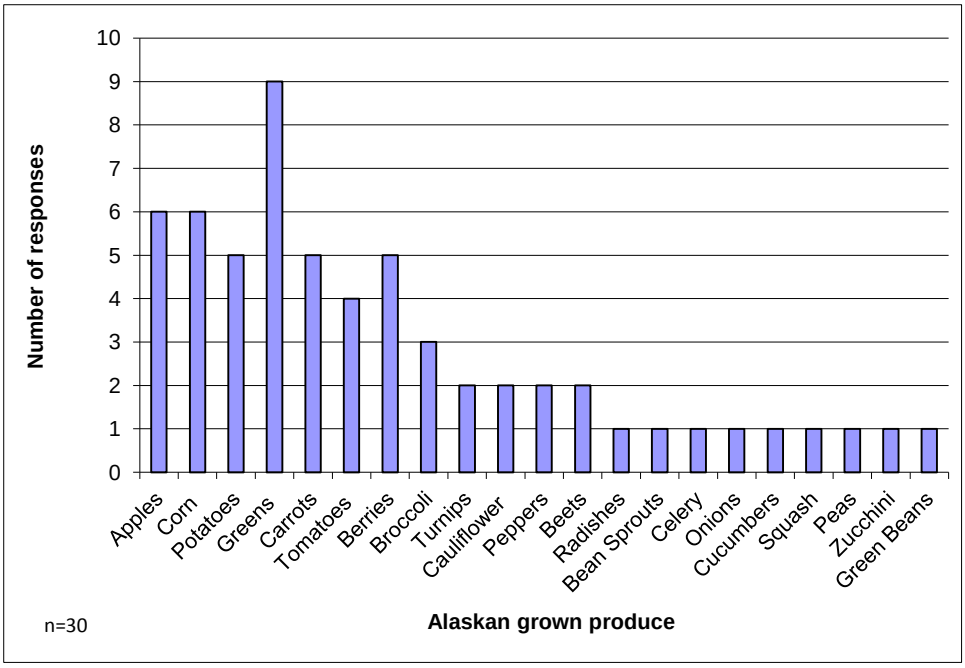

Figure 4. Mobile Market Food Requests: A1aska Grown Produce

Responses for produce not grown in Alaska are presented in Figure 5. Bananas and grapes were the most popular, each receiving three responses. This category of produce would need to be sourced from outside the state and could result in higher costs. It would need to be considered by the mobile market organizer if these products would be financially practical to sell.

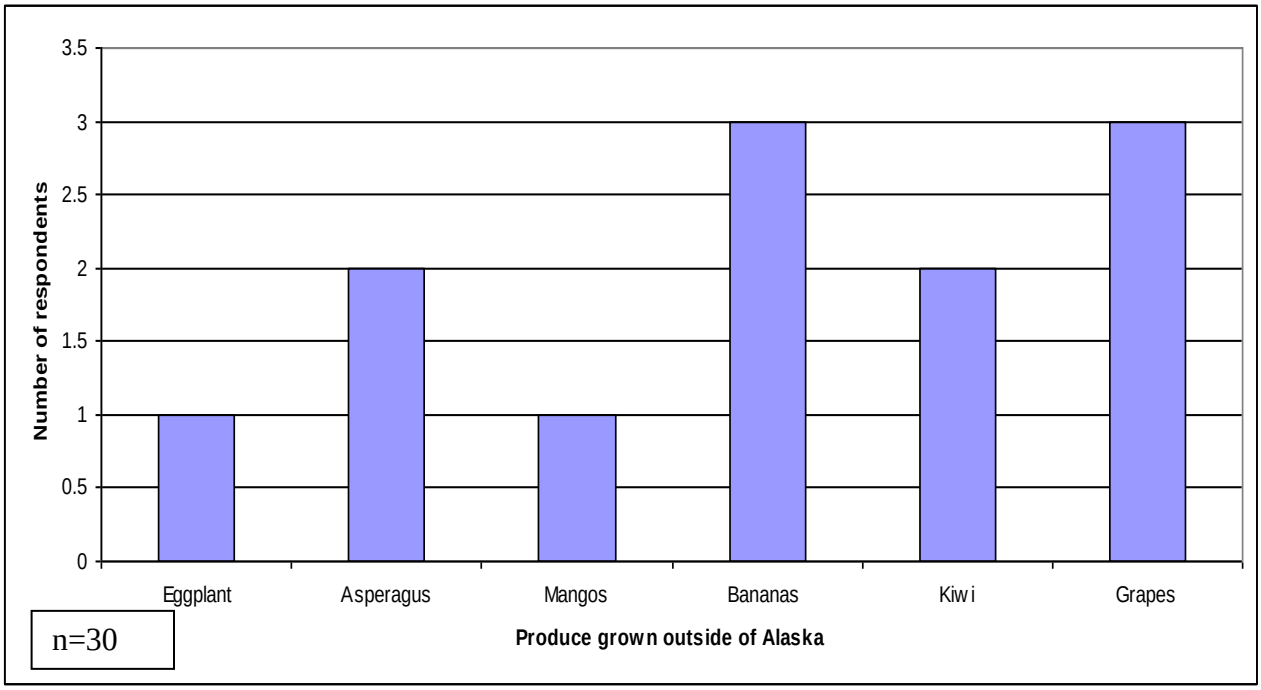

Figure 5. Mobile Market Food Requests: Produce Grown Outside of Alaska

Non-produce specific foods are shown in Figure 6. Fruits, "Alaska Grown" products and organic foods received three, two and one responses respectively. Peanut butter and Fireweed jam are not considered whole foods, and must be prepared. A mobile market manager should be aware of such foods as health permit needs would be different for prepared foods.

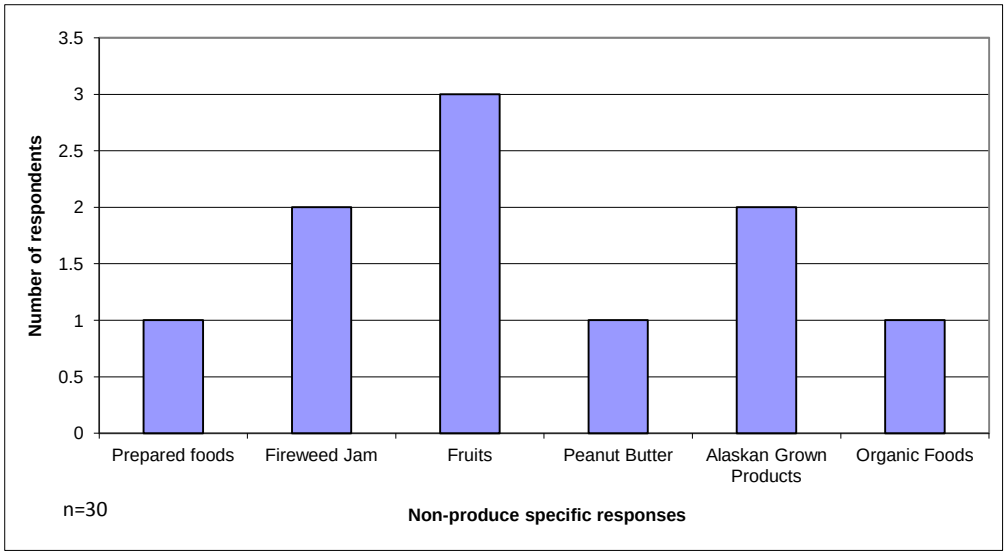

Figure 6. Mobile Market Food Requests: Non Produce Specific

Results for question two, "What times of day would work best for you to access the market?" are illustrated in Figure 7**.** Results indicated a majority of survey respondents (23 of 30) could access the market during one of two times; afternoons (between 2:00pm and 4:00pm), or evenings (4:01pm-7:00pm). Respondents were encouraged to choose one time of the day which worked best, however four survey respondents chose times falling into two separate categories (see Appendix C). Four respondents chose not to answer the question.

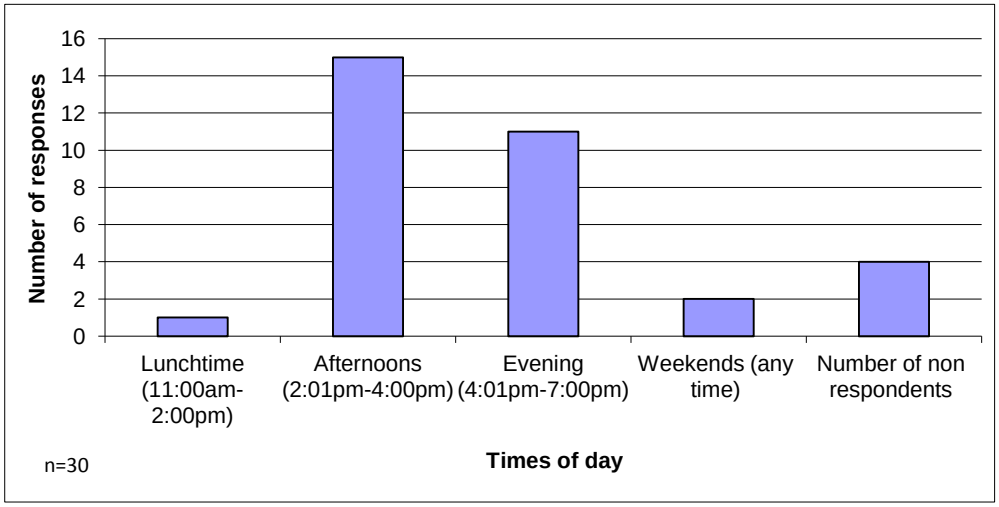

Figure 7. Potential Customer Survey: Best Times to Access Mobile Market

Question three was "Where are places you visit daily/weekly where it would be convenient for a market to be located?" As shown in Figure 8, survey respondents felt Lions Park located on the east side of Mountain View would be a convenient place for the market to be located. Lions Park is popular in summer months as it has a playground, sports fields, and structures suitable for barbeques and get-togethers. Twelve respondents mentioned Lions Park, followed by Clark Middle School with seven responses. Clark Middle school would be a convenient location for families dropping off or picking up their children from school or after school activities. The new Mountain View library also shares the middle school's parking lot. Valley of the Moon was the only response not located within the Mountain View census area. There was one non-respondent for this question.

While analyzing results it was noted some responses are located close to each other. For example, the Boys and Girls Club, churches, and Lyons Park collectively made up six responses. Mountain View Baptist Church is located adjacent to Lyons Park and the Boys and Girls Club building, making the church parking lot a market stop location which could serve all three areas. Similarly, the Mountain View Service Center and Red Apple are located one block away from each other, along Mountain View Drive. Red Apple received three survey responses, with Mountain View Service Center and Mountain View Drive each receiving two. Mountain View Service Center as a market stop could provide middle ground for the three locations.

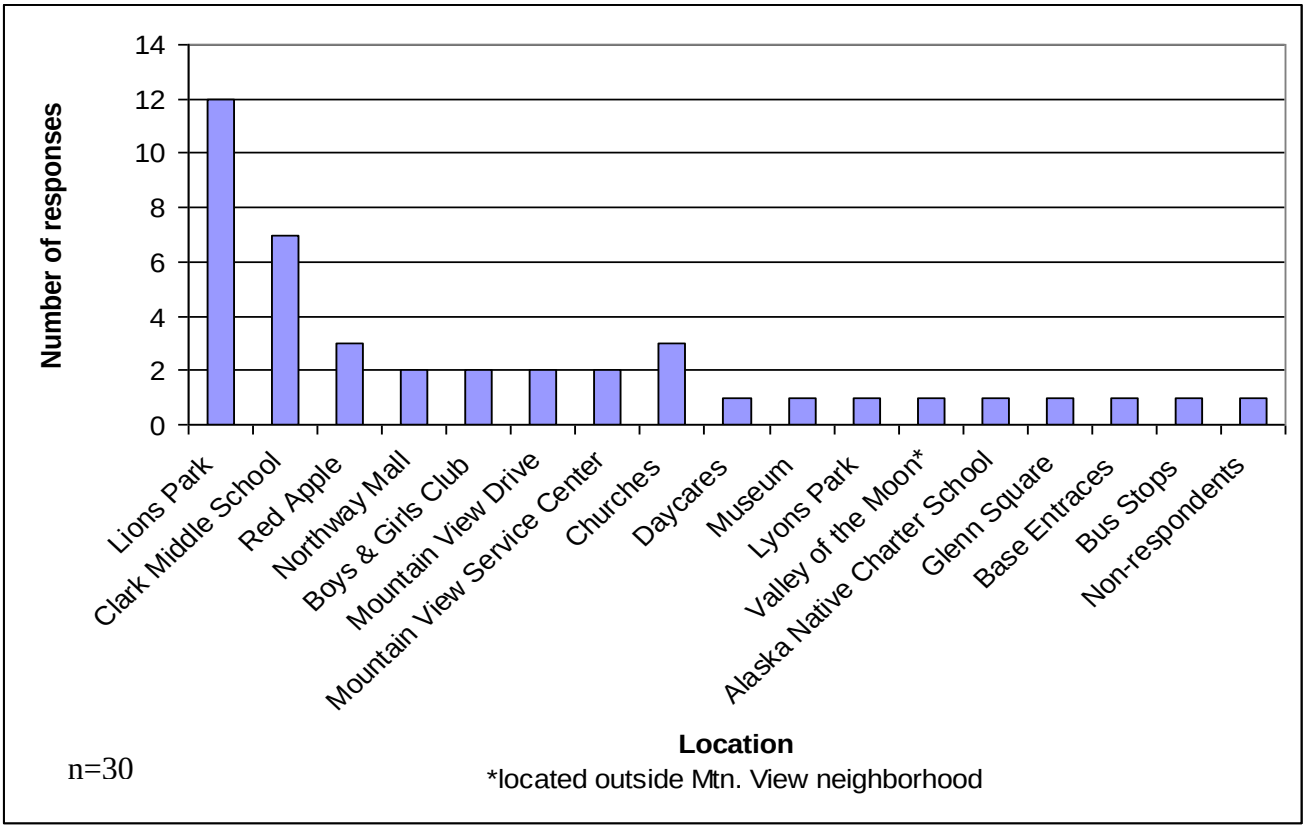

Figure 8. Potential Customer Survey: Locations Convenient for Mobile Market

Figure 9 illustrates the response to question four, which asked "How much do you spend on fresh fruits/vegetables each week?" Answers indicated many individuals spent approximately

$10-$25 each week, with almost half (10 of 22) of respondents falling into this category. Seven respondents indicated spending $25 or less, with five respondents spending $50. This question had the highest number of non-respondents, with eight persons not answering the question. It should be noted respondents were not asked to indicate if their household received federal assistance such as SNAP/WIC.

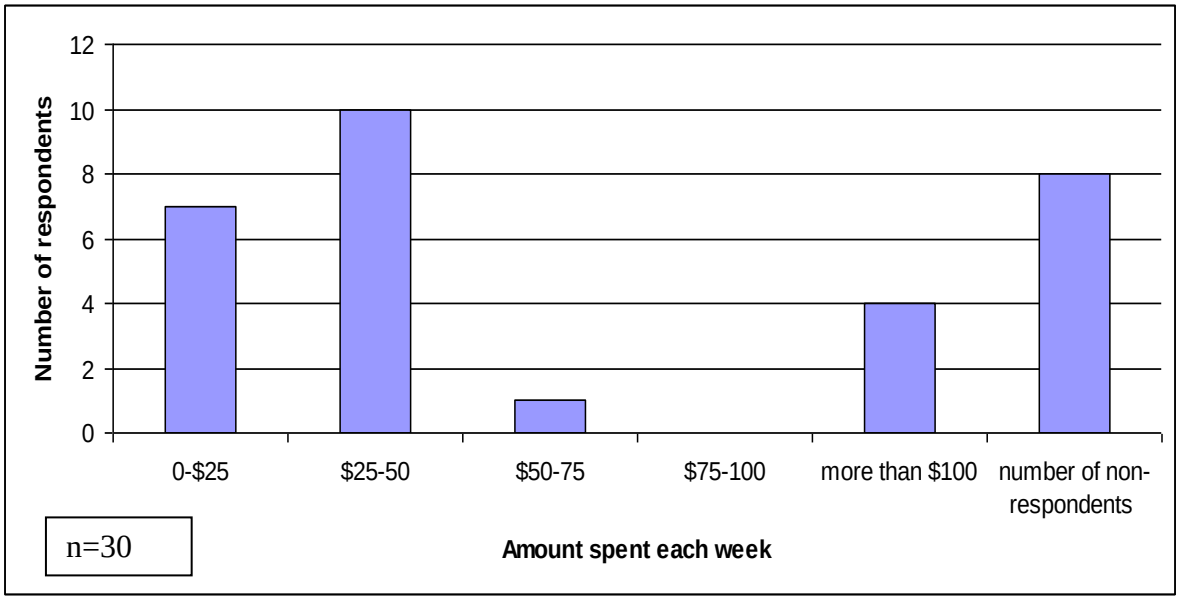

Figure 9. Potential Customer Surveys: Amount Spent Per Week on Fresh Produce

Strengths of the customer surveys included the ability to reach a diverse group of potential market customers, as the block party was free for all Mountain View residents. As mentioned above, potential mobile market customers were encouraged to choose more than one answer for the questions if applicable. This allowed respondents to indicate multiple locations or times for accessing the market, which was beneficial when recommending market stops.

A weakness of the survey instrument included questions being open ended. This resulted in answers needing to be grouped according to similarity, and many one-response answers. Closed-ended answers for questions two (What times of the day would work best for you to access the market?) and four (How much does your household spend on fresh fruits/vegetables each week?) would have allowed respondent selections to be grouped into fewer categories. Adding a sub-question to question two, asking if answers applied to both weekends and weekdays would have allowed the researcher to separate responses with more clarity and plan market stops more efficiently.

4.3 Available Grants

Available grants were found by searching federal and Alaska-based websites related to farmers markets and QUEST/SNAP programming support. Found grants were applicable to the Mountain View neighborhood and census tracts within Anchorage, so expansion and further development of the market would be possible.

4.3.1. The Rasmuson Foundation (www.rasmuson.org), a private foundation based out of Anchorage, Alaska, has encouraged organizations within the state to pursue their community development goals, since the first grant was awarded over 50 years ago. The foundation specializes in promoting organizations which "demonstrate broad community support, superior fiscal management, and matching project support," (Rasmuson Foundation, 2013). There are two types of grants applicable for a mobile market: Tier 1 and Tier 2 grants.

Tier 1 grants up to $25,000 are available each year for capital projects, such as the purchase of furnishings, equipment, appliances, and vehicles. Grant applications are accepted year-round and awards are handed out on a rolling basis. Tier 2 grants are available for projects total-

ing more than $25,000 and involve expansion or start-up of innovative programs which address issues of broad community or statewide significance. Tier 2 grants are accepted year round with deadlines for final proposals (Rasmuson Foundation, 2013). The Rasmuson Foundation awarded seven Tier 1 awards in 2014, totaling $149,611, and no Tier 2 awards (Rasmuson Foundation, 2013).

4.3.2. The Alaska Food Coalition (AFC) is comprised of nonprofit and faith-based agencies throughout the state of Alaska. AFC works to help communities expand food and nutrition assistance programs and educate Alaskans on personal food needs (AFC, 2013).

Mini-grants are available through AFC (found at www.alaskafood.org) for agencies working to end hunger in Alaska. Grants were developed to help programs to purchase distributing/storage equipment for foods, training staff members/volunteers, or to purchase or repair equipment. Grants awarded are distributed in amounts up to $1,000. AFC budgets approximately $5,000 each year for mini-grants. Grant applications are found on the Alaska Food Coalitions' website (AFC, 2013).

In fiscal year (FY) 2013, mini-grant awards totaled $5,312.77 and were distributed to six organizations throughout the state. Projects funded included a commercial mixer for Sterling Area Senior Citizens, a refrigerator for Wrangell SDA Church, and insulated food carriers for The Children's Lunchbox (AFC, 2013).

4.3.3. Alaska Farmers Market Association (AFMA) (alaskafarmersmarkets.org), whose mission is to "support and promote vibrant and sustainable farmers markets throughout Alaska," (Alaska Farmers Market Association, 2013) partnered with the Division of Agriculture and De-

partment of Health and Social Services to provide grant opportunities. Grants are available for farmers markets looking to provide EBT machines for customers (Alaska Farmers Market Association, 2013.)

Program funding is open to any Alaskan farmers markets licensed to accept SNAP benefits and are able to obtain a wireless signal. Previous years grant assistance provided $7,200 to cover equipment and financial costs for an EBT machine including service fees and staff person on market days (Alaska Farmers Market Association, 2013.) Grant applications are found at the Alaska Farmers Market Association website, with deadlines within the first months of a calendar year for the following summer. Grant availability is subject to change each year depending on AFMA's funding opportunities (Alaska Farmers Market Association, 2013.)

4.3.4. Alaska's Department of Natural Resources (DNR), within the Division of Agriculture offers matching funds for Alaska Grown Products through the Alaska Grown Cooperative Marketing Program. The Cooperative Marketing Program (CMP) looks to promote Alaska Grown products with a maximum of $2,000 distributed for programs (DNR, 2013). To apply, one must be a participant in the Division of Agriculture's Alaska Grown program. Participation involves an application through the Division of Agriculture, which allows for the Alaskan Grown logo on locally grown agricultural projects at farmers markets. The application is free (DNR, 2013).

The CMP program is a matching program, which requires: that Alaskan grown product(s) will be promoted during the market/activity/event, a dollar for dollar match of every state dollar will be expended (in-kind match funding is allowed), and a final report of the project with receipts, including matching funds (DNR, 2013).

Proposal requirements and applications can be found at the dnr.alaska.gov website, along with sample proposals and budget sheets. The deadline is at the end of March for that years' summer market season, with selected proposals announced by mid-April (DNR, 2013).

4.3.5. The USDA coordinates two different grant opportunities related to farmers markets. The Farmers Market Promotion Program (FMPP) offers grants to develop businesses which sell locally grown foods at farmers markets, roadside stands, and/or community-supported agriculture programs. In FY 2013 over $9 million in grants were given through the FMPP, with maximum grant allocations being $100,000. Applicants can be individuals, businesses, tribal governments, producers, or nonprofit organizations. Grant opportunities change each year depending upon available funds, and information is updated on the FMPP website (USDA, 2013).

The USDA-funded Federal State Marketing Improvement Program (FSMIP) provides matching funds through a state's Department of Agriculture, and other state agencies. Federal State Marketing Improvement Program funds help discover new market opportunities and encourage marketing, and benefit agricultural producers and agribusinesses (USDA, 2013). Applications can be found on the FSMIP website. Requirements and eligibility rules are laid out on the application. In 2013, 18 projects in 15 states received funding, totaling $1,234,690. Grants range from $25,000 to $135,000, with the average grant size being $68,594 (USDA, 2013). Grantees in 2013 included: Virginia State University (awarded $57,200 to identify gaps in the local food marketing system and develop new strategies which meet the needs of small farmers and consumers) and the Arkansas Agriculture Department (received funding to develop the Ar-

kansas Grown brand, identify marketing barriers, and train producers on how to market, package and process vegetables) (USDA, 2013).

4.3.6. Kickstarter (www.kickstarter.com), an independent company based out of Brooklyn, New York, is the world's largest funding platform for creative projects. Launched in 2009, over 50,000 projects have been funded through donations from 5.6 million people. Project creators select a funding goal, deadline, and wait for 'backers.' Backers are people who view the project on the Kickstarter website and decide to contribute money. A project is funded if backers pledge enough money before the deadline is reached. Project creators receive 95% of fully funded projects, Kickstarter receives 5%. If a project goal is not reached, backers receive money back and no funding goes through to Kickstarter or the project creator. Fork in the Road Market based out of Portland, OR successfully funded their mobile market on Kickstarter in January, 2012, exceeding the $12,000 project goal (Kickstarter, 2013). The company encourages a 're-ward' for backers when the project creation is completed, such as a copy of a CD, print from an art show, sticker from the business, or copy of a movie from a film (Kickstarter, 2013).

Guidelines to create a project on Kickstarter include: project creator must be a US, UK, Canadian, Australian or New Zealand citizen, be 18 years of age or older, and have a permanent address within the creator's home country, bank account and country/state issued ID. Although there are requirements to create a project, any person may back a project (Kickstarter, 2013).

4.4 Legal Considerations

Anchorage Municipal Code (AMC) 16.60 defines a "mobile food unit" as a type of food service located in a vehicle, trailer, or pushcart capable of moving daily for servicing of water

and wastewater holding tanks and operates out of an approved commissary or other approved facility (unless it is a self-contained mobile food unit). A mobile food unit, other than a pushcart, shall be capable of being licensed by the state as a motor vehicle and shall be capable of moving without special conditions, such as a pilot car, flagging, restricted hours of movement, or a state motor vehicle permit; a unit is not considered a "mobile food unit" if it does not completely retain its mobility or is connected to water or sewer (Municipality of Anchorage (MOA), 2013).

A plan review, required by the Municipality of Anchorage for all new facilities would be necessary to begin the mobile market permit process. A plan review permit can be found on the MOA website, and requires facility manager information, construction/design specifications of structure, food items served, and a one-time 'plan review' fee, currently $200 for a facility 0-1,000 sq feet (MOA, 2013). Once a plan review has been approved, the market can apply for a business license, roving vendor license and temporary health permit.

New Alaska business license applications are located at the State of Alaska's Department of Commerce, Community, and Economic Development website. Business' name, license fees, and owner information are required, along with a $50 fee (MOA, 2013). Roving vendor licenses are required for vendors whose structure can be moved to different locations. The vehicle must have proof of insurance, Alaska registration and State of Alaska business license (MOA, 2013). The application for a roving vendor license, found at www.muni.org, requests the applicant's name, vehicle/equipment description and insurance /registration information.

Anchorage Municipality food unit code health permits are chosen based on whether a unit will be operating seasonally or year round. A health permit is required for year round operations, and temporary health permits are required for seasonal units (Municipality, 2013). At this time, a market not preparing food or samples is exempt from the health permits. If food prepara-

tion or food sampling takes place the business must hold a license. Temporary health permit fees are approximately $60 each year for a seasonal establishment. The permit, found at www.muni.org, requires information regarding: type of structure, water supply, bathroom facilities, structure layout and food preparation (MOA, 2013).

Mobile food units must have one certified food protection manager present at all times while in service. This certification requires passing an exam which can be taken any day during business hours in Anchorage. The certificate is valid for three years, and the cost of each exam is $10. Although the Municipality requires every person working with food to have a food worker card in mobile units, exceptions to this rule include employees who do not handle food or cleaning dishes/utensils such as grocery checkers, baggers, and cashiers. In such establishments only one certified food protection manager is needed. Environmental Health Specialist Samantha Furnace, of the Municipality Food Safety and Sanitation division confirms a mobile farmers market requires only one certified food protection manager, as the market will not be working with prepared foods (MOA, 2013)

Chapter 5 Discussion and Recommendations

5.1 Why Mountain View

Mountain View is currently in a time of revitalization with strong community partners and business support. Introducing a mobile market to the neighborhood could utilize the momentum to provide greater access to fresh fruits and vegetables to the community.

With nearly 80% of Alaskan adults not consuming the recommended servings of fruit and vegetables each day (DHSS, 2009), healthy food access for all residents is imperative for healthy communities. Ruelas et al. (2011) determined families with incomes less than $23,550 have a higher risk of food related health disparities than families above the poverty line. This was confirmed by Gallup-Healthways which found individuals making less than $24,000 annually suffer from lower physical health, poorer quality dietary habits, and less access to medical care (Mendes, 2010).

Mountain View's median household income was $40,894 for a family of four in 2013, well below Anchorage's median income of $72,832 (US Census, 2013). The neighborhood is located in the zip code with the highest number of SNAP beneficiaries, (Alaska Division of Public Assistance, 2013), and contains three Title 1 schools (ASD, 2014). Mountain View residents have limited access to vehicles and rely heavily on walking and public transport (MVCI, 2012). Mountain View's median household income, number of SNAP beneficiaries, Title 1 schools, and limited vehicle access are all associated with an increased risk of food insecurity, which was noted by key informants. "Local children are always coming in to eat and carry out as much food as they can get," says Leslie Ellis, CEO of CU1, speaking of branch events which offer free food for attendees. Food Bank of Alaska's mobile food pantry stop in Mountain View has served over 17,742 households since it began in 2009 (Mitchell, 2013). Mountain View's pantry stop

serves such a large population that Mitchell believes a successful mobile farmers market in Mountain View could result in fewer residents accessing the mobile food pantry, creating opportunity for FBA to expand to other parts of the city (Mitchell, 2013).

Mountain View has only one grocery store and three small markets which serve produce, often at higher prices than supermarkets outside the neighborhood. With an estimated 70% of residents relying on walking or public transportation to go food shopping, a mobile market could benefit the community, making it possible to spend money or buy food without having to get on a bus or walk many blocks (Rose, 2013).

Despite Mountain View's challenges and food insecurity, there have been many successes. Anchorage Community Land Trust, Cook Inlet Housing Authority, Credit Union 1 and the Rasmuson Foundation are just a few organizations working for positive changes within the Mountain View community. During the past ten years over 120 blighted buildings have been torn down, and new construction added 218 single family and multi-family homes to the neighborhood. Businesses such as Mountain View Service Center, GCI, Red Apple and Credit Union 1 opened, Clark Middle School was renovated, and the Municipality of Anchorage built a new library and added a police substation (MVCI, 2012). Each day 19,000 vehicles pass through the intersection of Mountain View and Commercial Drive, a valuable indicator of potential market demand for commercial spaces and business opportunity (MVCI, 2012). Bringing a mobile farmers market into the community could continue to connect residents who may be underserved while contributing to enthusiasm generated by the above-mentioned projects and community partners.

When put on wheels, farmers markets have the ability to reach populations and neighborhoods with limited access to fresh local foods (Miller, 2011). A successful mobile market in Mountain View could be duplicated in other areas of the state, such as Juneau, Fairbanks, or Ketchikan. Food insecurity is prevalent throughout Alaska and projects which may help alleviate food access issues, such as a mobile farmers market, could be shared between communities. Additional research would be needed before implementing a mobile market in rural areas of the state to determine if cost of a vehicle, produce, etc. would be prohibitive. Rural communities with high walkability may not benefit from a mobile market, as a vehicle may not be necessary to link food insecure households to food sources.

The following section offer mobile market recommendations based on the information collected via key informant interviews, customer surveys, and literature reviews of mobile markets, food insecurity, and Mountain View. Recommendations cover factors necessary for a market to be successful in Mountain View (e.g., community partnerships, potential market stops, food preferences, and funding considerations), and are presented in a fashion that assumes the mobile market will come to fruition.

"Mountain View will not recover as a neighborhood of choice unless there is a clear commitment to do things differently," (CBZ, 2004). A mobile farmers market could be one such commitment needed to change the outlook of food security in the Mountain View neighborhood.

5.2 Optimizing a Mobile Market for Mountain View

5.2.1 Market Stops

Market stops were chosen based on potential market customer survey responses. The market is projected to run three days each week. Sundays and Mondays the market will make

stops in Mountain View, and Tuesdays the market will make stops outside the Mountain View neighborhood.

Two market stops will be made on Sundays: Mountain View Baptist Church and Lions Park. Mountain View Baptist Church is adjacent to Lyons Park, the Boys and Girl Club, and two blocks from the Alaska Museum of Science and Nature. A well known location within the community the Baptist Church is also FBA's mobile pantry stop. The second market stop of the day, Lions Park, is a center for activity during the summer with open green spaces, playgrounds, and room/equipment able to accommodate large groups for parties or get-togethers.

It was determined from potential market customer surveys that the mobile market would make its first stop at Anchorage Baptist Church between the hours of 10:00am-1:00 pm. These times allow access for customers attending morning Church services or utilizing resources near by. The market will make its second stop of the day at Lions Park, from 2:00pm-5:00pm. This takes advantage of afternoon crowds and allows market accessibility to households on the eastern side of town.

Mondays allow persons traveling via foot, bus or car to work/school to access the market. Mountain View Service center will be the first stop of the day based off respondent surveys, location, and accessibility. Hours will be 10:00am-1:00pm. The second stop of the day is to be Clark Middle School from 2:00pm-5:00pm. Clark Middle School is located adjacent to the Mountain View Library and the highest ridership bus stops in Anchorage, allowing convenient accessibility for commuters or families picking up children from school, at the same time advertising for residents unaware of the market. As the market will run during summer months Clark Middle School will not be in session the whole market season. However, the school's central location makes a convenient market location regardless.

Tuesdays the market could go off-site to locations such as the BP Building and/or Chugach Alaska Corporation on Centerpoint Drive. By going outside Mountain View, the mobile market can gain revenue through 'high impact' stops. High impact stops serve areas of high population density such as large corporate buildings. Customer volume and sales have the potential to increase greatly during these stops, helping keep the mobile market sustainable for communities like Mountain View. Tuesdays would include a lunchtime stop, 11:00am-2:00pm on Centerpoint Drive, where the Alaska USA Federal Credit Union building, Chugach Alaska Corporation, and other businesses are located. An afternoon stop at the BP building on Old Seward/Benson Drive could be made from 3:00pm-6:00pm, allowing workers to access the market as they leave in the evening.

Figure 10 illustrates the location of mobile market stops for Mountain View:

Sundays:	
(1) Food Bank of Alaska Mobile Pantry/Baptist Church	10:00am-1:00pm
(2) Lions Park	2:00pm-5:00pm
Mondays:	
(3) Mountain View Service Center	10:00am-1:00pm
(4) Clark Middle School	2:00pm-5:00pm
Tuesdays 'Off site':	
Centerpoint Drive	11:00am-2:00pm
BP building	3:00pm-6:00pm

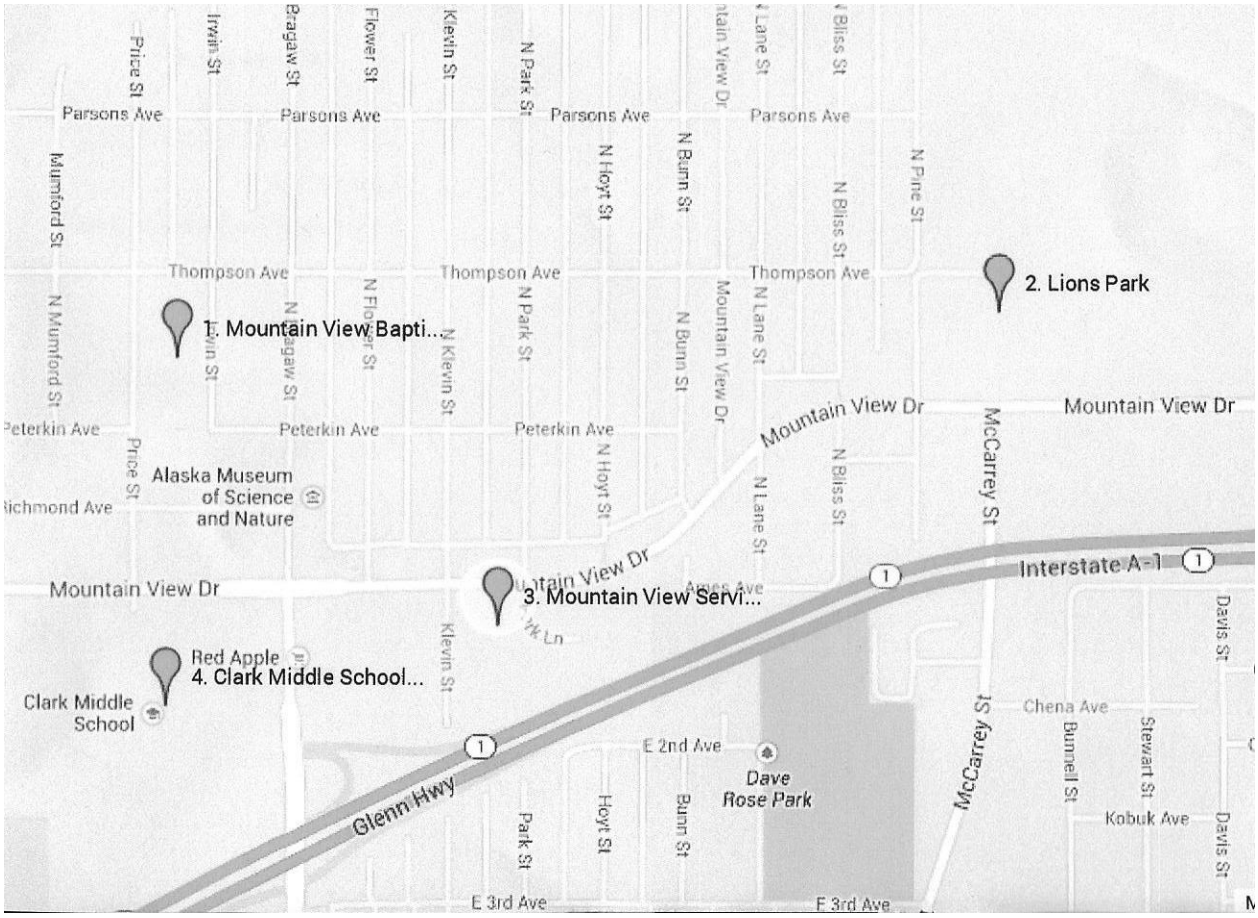

Figure 10. Mobile Market Stops: Mountain View

5.2.2 Needs of Mountain View Population

Consistency was a common theme during key informant interviews. "The hours [of the market] don't matter, but the market must be there at the time given, showing everybody is important," said Mitchell (2013), when asked about the possibility of a successful mobile farmers market in Mountain View. The residents in Mountain View have seen many businesses come and go in the past, creating a greater need for current organizations to prove they are reliable and won't pack up and leave after a few months (Rose, 2013).

Ellis (2014) indicated the success of Credit Union 1 opening in Mountain View was because she and her partners attended community council meetings to establish a relationship of trust, adding the neighborhood had a history of hearing promises from businesses and corporations who did not follow through. The mobile market must be consistent in its weekly stops, following through on days and times decided upon and providing high quality foods to its customers.

Nutrition-based education such as recipe ideas, food demonstrations, and/or shopping list examples will be implemented at the market to provide a greater understanding of foods. Nutrition education is important as farmers markets can be successful in helping consumers meet the recommended daily intake of fruits and vegetables (Landis, 2011). Farmers market customers are more likely to enjoy cooking at home and purchase food motivated more by nutrition than cost (Ruelas, Everson, Keikel & Peters, 2011). Real Food Farms in Baltimore, MD educated potential customers on eating and cooking healthy foods, expanding their clientele as a result of this education. Such programming is inexpensive and can be conducted by staff members or volunteers during market stops.

Market participation and/or outreach are needed to be successful, and markets have shown creative ways to promote their business. Egleston farmers market in Boston, MA provides bilingual programming such as music and performances to bring together those from many backgrounds (Egleston Farmers Market, 2013). The Maine Federation of Farmers Markets suggests having a 'Plant Day' where plants are given to customers. Other suggestions include: gift certificates, coupons/drawings for door prizes, bobbing for apples, mailing coupons to homes in market area, 'meet the author day' with cookbook authors, and 'welcome back' postcards for all previous years' customers (Maine Federation of Farmers Markets, 2013). An example of suc-

cessful outreach is that by the manager of Oregon City farmers market who goes door to door in low-income housing projects persuading residents to give the market a try (McEwen, 2009). These methods are not location specific and could be utilized in Mountain View.

5.2.3 Food Preferences

Customer survey respondents were most interested in seeing the following foods sold at a mobile market: greens (lettuce, kale, chard), apples, corn, potatoes, carrots, tomatoes and assorted berries. Purchasing these foods from local farmers if in season is recommended, as is allowing the first few weeks of market stops to be a trial period for the foods. Making assortments of root vegetables, in season produce, and herbs such as basil/cilantro be made available during the first few weeks of market stops is suggested as well. As the market continues to grow its customer base, market organizers should rely on customers for suggestions on foods they would like to see sold, tailoring available produce to customer needs.

5.2.4 Community Partnerships

Mountain View Community Indicators determined Mountain View residents are a captive foundation for new businesses (MVCI, 2012). Community partners and support can help determine successes of a new business, as examples from Arcadia and West Louisville's markets indicate. Arcadia market demonstrated the benefits of supportive communities. Market evaluators concluded the market's future success will depend on continued partnerships and community outreach (Arcadia, 2013). West Louisville's farmers market was not successful; market organizers cited lack of community partnerships as the largest hurdle (Markotwitz, 2010). Part of the

reason West Louisville was not successful was the lack of partnering with businesses and organizations in environments which promoted success (Young et al., 2011).

Community partners are also associated with market surroundings. Young et al. (2011) demonstrated successful farmer' markets which use the market's environment to facilitate success. High-traffic areas such as shopping malls, schools, and/or churches allow markets to maximize pedestrian flow and draw in customers utilizing area resources. East Downtown Louisville's market was located in the parking lot of a middle school whose principal and community-school coordinator was enthusiastic about the market and promoted it to students and parents (Markotwitz, 2010). Community support and partnerships for market stops, and local organizations contributing towards eliminating food insecurity will help a mobile market be successful.

Leslie Ellis, CEO of Credit Union 1 believes companies who make the decision to come to Mountain View are going to find 'a lot of positive things' within the community (Ellis, 2014). Ellis suggested speaking to GCI which has been successful since their Mountain View location opened, as they may be able to offer support financially or through marketing. CU1 may be able to provide support in advertising and/or marketing for the mobile market at its Mountain View branch (Ellis, 2014).

Anchorage Community Land Trust, Anchorage Baptist Church, Lions Park and Clark Middle School are planned market stop locations. Their support will be needed forallowing the market to use the properties as a market stops. As these locations are well known and trusted, it is anticipated that they will allow residents to feel more comfortable when attending the market.

Partnering with Mountain View schools is a priority, as they share the goal of fighting food insecurity. Working with schools may allow for additional advertising such as market flyers to send home with students, or involving children when designing the market vehicle to help

gain market awareness and enthusiasm. A contest could be organized for students at Mountain View elementary and middle schools. Students would be asked to submit a design for the outside of the mobile market vehicle with the winning idea placed on the vehicle, with the student's name. A similar contest could be done with the mobile market's name or logo.

The University of Alaska, Fairbanks Cooperative Extension Service's office based in Anchorage may also be utilized as a community partner for market operations and educational services. Created in 1930 in conjunction with Alaska Agricultural College and School of Mines, Cooperative Extension Services (CES) works to link Alaskans and their communities to research-based data and information. Major program topics include: agriculture and horticulture, health, home and family development, natural resources and community development, and 4-H and youth development (Cooperative Extension Service, 2013). CES currently conducts classes and events in Anchorage involving food security/nutrition such as a Master Gardener program, herb study groups, in-home nutrition education classes for low-income families, and home canning classes (Cooperative Extension Service, 2013). As a mobile market partner, CES may be able to assist with food demonstrations, nutrition education pamphlets or sample recipes which would be distributed during market stops and/or providing market information for attendees of Anchorage based CES courses/classes.

It will be important to find a community partner able to offer matching funds, allowing the market to provide vouchers for customers using federal assistance programs. With a matching program, customers using SNAP or WIC funding would be able to receive additional money to spend at the market. An example of this is Arcadia's "Bonus Buck' program which offers an additional $10 of money to be spent only at the farmers market for customers spending $10 worth of SNAP/WIC/Senior FMNP. Providing a 'bonus buck' incentive for customers on assis-

tance is important when providing food which is accessible for all. More than 40% of Arcadia's first season's sales were SNAP, WIC, Senior FMNP, and/or Bonus Buck based. Arcadia Market (2013) received $10,000 to use towards their Bonus Buck program, allowing an additional $10,000 worth of food to be purchased by customers using SNAP/WIC/FMNP.

5.2.5 Funding Considerations

An estimated $54,550 will be needed to successfully establish a mobile market for the first season. Table 3 provides estimated expenses and costs for the business. Funding considerations for the mobile market were determined by reviewing Arcadia's Market budget analysis, successful mobile market information, and Department of Agriculture's EBT cost breakdown.

The largest cost, approximately $20,000-$25,000, is for the market vehicle. Unless the vehicle purchased has been previously used as a food truck, the following budget costs need to be considered: retrofitting the vehicle, adding necessary equipment such as generators, refrigerators, shelving units, stalls, canopy for the outside, storage fridges or freezers, electric installations, fuel and maintenance costs (Arcadia, 2013).

An EBT machine is necessary to provide access for customers with SNAP benefits. The Division of Agriculture (2013) provides the following cost estimate of the machine/supplies needed:

- Wireless EBT machine rental (6 months): $400
- Associated machine fees: $300
- Market advertising: $200
- Matching incentives for QUEST: $250

These funds will be used for customers using QUEST cards, matching the amount of money spent, up to $10 allowing customers to purchase additional produce at the market Matching incentive funds are based on stands being open 1-2 times each week

- Total: $1,150

Marketing is necessary so the public knows where/when they can access the market. Arcadia (2013) budgeted $1,000/year for supplies such as flyers and other marketing instruments. Given the area of focus is Mountain View, marketing would be tailored to businesses and houses in the neighborhood, and possibly at off-site venues. Free advertising is available through the Division of Public Assistance (DPA) if a farmers market has EBT machines. The DPA mails flyers to all SNAP beneficiaries at the beginning of each summer providing a list of farmers market able to take QUEST cards.

Purchasing foods to be sold at the market is a continuous cost. Purchased foods will be determined by previous market days, consumer preference, availability of locally grown foods, and cost. Arcadia purchased $32,990 worth of produce during the 2012 season. This number cannot be translated directly to the Mountain View market. However it should be assumed at least $20,000 will be spent on purchasing food, which will then be sold to customers at a markup rate between 20-40% (Arcadia, 2013). This food cost is not incorporated in the total start up budget, as food will be purchased using revenue made during earlier market stops. Roughly $2,000 is allocated in the proposed budget to purchase foods for the first few weeks of market stops.

Costs not factored above include: storage for foods not needing cold storage, and vehicle parking on non-market days. Costs are to be determined, however it is estimated that market ve-

hicle parking is to be $3,500 and dry food storage is to be approximately $1,500. Five thousand dollars has been allocated for parking and storage under "miscellaneous costs."

Table 4: Proposed Mobile Market Budget

Expenses	Proposed Cost
Vehicle	**$20,000-$25,000**
Market Vehicle	$5,000
Electrical Work	$2,500
Exterior Paint	$2,000
Equipment Installations (inside shelving, fridge, etc)	$5,000
Cold Storage (two fridges)	$1,000
Supplies (tables, signage, etc)	$1,500
Additional Costs (Fuel, Maintenance, Insurance)	$6,000
Food and Market	**$3,000**
Initial Food Purchasing	$2,000
Overall Food Purchasing (not included in propose cost as revenue would be put towards purchasing)	$20,000
Supplies (fliers, bags, etc)	$1,000
Business	**$1,550**
EBT Machine and Supplies	$1,150
Permits/Licenses	$400
Labor	**$35,000**
Full time Manager	$30,00
Staff member on market days	$5,000
Miscellaneous Expenses	**$5,000**
Total	**$54,550**

As discussed, funding will need to be obtained through methods such as fundraising, donations, and grants. Forms of social entrepreneurship could also be used for fundraising or marketing. The Schwab Foundation (2014) defines a social entrepreneur as a person, or people who 'drive social innovation and transformation in various fields including education, health, envi-

ronment and enterprise development.' This is completed by building strong, sustainable organizations using non-traditional practices (Schwab, 2014).

Driven by innovation, sustainability, reach and social impact, a mobile market could be described as a social business venture, i.e., for-profit business which provides a social service with goals of reaching more people in need while generating profits. An entrepreneur working with a mobile market would not be prioritizing on wealth, but reinvesting funds for business expansion, and seeking investors interested in financial and social returns (Schwab, 2014).

Examples of social entrepreneurship include:

- "Buy one give one" companies such as TOMS which gives a shoe or pair of eye glasses to 'Giving Partners' around the world who then distribute these items to people in need (Fusion.net, 2014).

- USA Food Recovery Network (FRN) which collects surplus perishable food from college campuses to donate to people in need at food banks, homeless shelters and non-profits within the communities (Fusion.net, 2014).

- The Parents Alliance, Inc. which provides online learning opportunities for Hispanic parents who speak limited English. Parents Alliance, Inc. trains parents to use the internet so they can participate in their children's schooling, as well as communicate with teachers and schools to further develop their child's and their own educational goals (Fusion.net, 2014).

- Better World Books,' with a mission to 'maximize the value of every book' while helping to promote literacy. The company reuses and recycles books through sales on their website and has raised over $16 million for literacy funding since being founded in 2002 (Fusion.net, 2014).

5.3 Future Evaluation Potential

An evaluation of the mobile market would focus on market customers and market neighborhoods. Using systematic observation and market surveys, evaluators would gather information from customers on past/present eating habits, local food choices, convenience of market times and accessibility. Neighborhood evaluations, also using surveys, would give insight to current food access and availability (during market season), eating habits, and possibly another overview of household and neighborhood demographics as demographics shift over time.

Suggested topics to be covered in questions/surveys for the mobile market evaluation include:

- Ease of market to find
- Mode of transportation used to access the market
- How customers heard about the market
- Number of times the customer has accessed the market
- Was the customer looking for a specific product? Did they find that product?
- Friendliness/helpfulness of market staff
- Signage of prices, product names, etc.
- Money spent on today's purchase
- Affordability of produce

- Cleanliness of market and surroundings
- Quality of produce purchased
- Satisfaction with products offered
- Approximate age/household size/household income/gender

5.4 Mobile Market Strengths and Weaknesses

Mobile market benefits are similar to those of traditional farmers markets, including: energy savings, local income generation, increased access to local foods, promoting a variety of locally grown foods, and promoting relationships between customers and farmers/growers (Ketchum**,** 2007; Markotwitz, 2010). The opportunities farmers markets have for future development in Alaska were characterized by the Alaska Farmers Market QUEST Program. Created in the summer of 2011 to determine the feasibility of using QUEST cards to purchase foods at farmers markets, the program found that over 100 low income Alaskans made 224 QUEST transactions, totaling $4,830 between Spenard and Homer farmers markets. Success was so great expansion of the Alaska Farmers market QUEST Program to six markets statewide was recommended for 2012 (Peck, 2011). Dissimilar from grocery stores, mobile markets have the ability to move quickly and carry products throughout the city, focusing on specific areas (Markotwitz, 2010), thus making the possible success of mobile farmers markets in Alaska potentially greater than traditional markets.

Unlike traditional markets, mobile market specific challenges include: parking for market stops, power accessibility, a home base for overnight parking, food storage, and market stops which allow for maximum market stops and minimum time spent in traffic (Arcadia, 2013). Help from community partners and grant funding could overcome potential market weaknesses.

Funding would provide money needed for power and food storage improvements to be made to the market vehicle, while community partners could provide space for market stops, allowing smooth transitions between each location.

5.5 Conclusions and Future Considerations

The goal of this project practicum was to provide information to help improve food security in Mountain View by facilitating access to fresh, healthy and affordable food for low income populations. This researcher believes a mobile market would succeed in achieving this goal. Ingram (2011) found the main cause of food insecurity is the inability to access food. Through key informant interviews and explored data it is known that residents of Mountain View, with a median household income $40,894, experience food insecurity. Common barriers to food security for Mountain View residents include: financial access to foods, distance to grocery stores/farmers markets, transportation, and lack of food education (Mitchell, 2013; MVCI, 2012). A mobile market, with its ability to move quickly and carry its products could travel directly to areas food insecurity, helping to overcome barriers of location and transportation. Arcadia mobile market (2013) demonstrated through EBT machine availability and bonus buck incentives that customers using SNAP/WIC/FMNP funding can be a valuable revenue source when provided the opportunity to purchase foods at mobile markets.

In closing, it is useful to identify challenges noted during data collection and literature review which could benefit from additional research and understanding. These include:

1. Additional evaluations of current mobile markets (budgets, products offered, marketing strategies, successes/challenges).

2. Further information on persons who qualify for SNAP but are not receiving benefits, as this is a potential market customer base not being accessed.

3. Data on the successes and challenges, including financial breakdowns, for Anchorage farmers markets.

4. Increased health data on Mountain View, including common health problems, life expectancy in Mountain View compared to other neighborhoods in Anchorage, average age of first pregnancy, and average household size, etc.

Research has been conducted on food security, food insecurity, and the consequences of living within a food desert, however very little research has been conducted which asks how and why food deserts were created. Food deserts limit a household's access to affordable and nutritious foods, increasing risk in diet-related diseases such as obesity and diabetes (Bornstein, 2012). By studying their creation, food deserts could be prevented from forming, potentially increasing food access and decreasing diet related health risks.

By providing affordable produce, accessible to everyone, mobile market customers could have the opportunity to increase their daily intake of fruits and vegetables (Landis, 2011). Increased food access could contribute to a reduction in food health related health risks such as obesity, high blood pressure and diabetes, all which disproportionately affect low-income populations (Ruelas et al., 2011; Mendes, 2010). It is hoped that this research project will conclude in the creation of a mobile farmers market, providing all Mountain View residents the opportunity to purchase fresh produce, in turn increasing food security within the community.

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Appendix A

Key Informant Interview Questionnaires

Key Informant Interview: Anchorage Community Land Trust

Date _____

Interviewer Name_____

Confirm consent: ____Yes ____No

Thank you for talking with me. As you may know I am working on my masters of public health at the University of Alaska, which focuses on helping bring a mobile farmers market to Anchorage. I am interviewing you, as well as other persons and organizations involved in food security and access in Anchorage. As a result of my interviews I hope to develop a business plan for a mobile farmers market which would bring locally grown, affordably priced foods to at risk populations in the city. Your responses will be confidential.

I would like to record the interview to ensure that my notes are accurate. However, only the researchers working on this project will have access to the completed write-ups, notes and recordings. These will be kept in a secure file cabinet in the researchers' office to which only we have access. Data will be compiled in such a way that you cannot be identified.

Your participation in this study requires a commitment of time on your part. There are no foreseeable risks or benefits to you personally with respect to your personal or professional status from participation in this study. Feel free to ask any questions as we go and if you'd like to skip a question or end early, that is ok. Do I have your consent to continue the interview?

1. What is the goal of Anchorage Community Land Trust?

2. What kind of activities does the Land Trust organize/etc, particularly related to food?

3. Please describe the demographics of Mountain View and 'customers' of the Land Trust: Language, background, work schedules, household makeup, vehicle access

4. In what capacity does the Anchorage Community Land Trust work outside of the Mountain View neighborhood?

5. What are barriers to food security and food access that you have seen in Mountain View?

6. What are the food choices for those who do not have a vehicle? Do any of these food venues provide local produce?

7. What is your opinion regarding a mobile market?

8. What venues in Mountain View would reach the most people in terms of market stops? Elsewhere?

9. Who else do you think I should speak to about a mobile market?

Key Informant Interview: Food Bank of Alaska

Date _____

Interviewer Name_____

Confirm consent: ____Yes ____No

Thank you for talking with me. As you may know I am working on my masters of public health at the University of Alaska, which focuses on helping bring a mobile farmers market to Anchorage. I am interviewing you, as well as other persons and organizations involved in food security and access in Anchorage. As a result of my interviews I hope to develop a business plan for a mobile farmers market which would bring locally grown, affordably priced foods to at risk populations in the city. Your responses will be confidential.

I would like to record the interview to ensure that my notes are accurate. However, only the researchers working on this project will have access to the completed write-ups, notes and recordings. These will be kept in a secure file cabinet in the researchers' office to which only we have access. Data will be compiled in such a way that you cannot be identified.

Your participation in this study requires a commitment of time on your part. There are no foreseeable risks or benefits to you personally with respect to your personal or professional status

from participation in this study. Feel free to ask any questions as we go and if you'd like to skip a question or end early, that is ok. Do I have your consent to continue the interview?

1. How long has the Food Bank of Alaska been serving the Anchorage population?

2. What kind of activities does the Food Bank of Alaska organize/etc.?

3. Please describe the demographics of the Food Bank's customers; background, language, household makeup

4. What are barriers to food security and food access that you have seen in Food Bank customers?

5. What are some of the largest hurdles you see in terms of food security/access in Anchorage?

6. Do you offer any mobile food bank throughout Anchorage?

7. Where does it go, what does it sell, and who does it serve?

8. How do you think a mobile market could best serve the Anchorage community?

9. What is your opinion regarding a mobile market?

10. What venues would reach the most people in terms of market stops?

11. Who else do you think I should speak to about a mobile market?

Key Informant Interview: Credit Union 1

Date _____

Interviewer Name_____

Confirm consent: ____Yes ____No

Thank you for talking with me. As you may know I am working on my masters of public health at the University of Alaska, which focuses on helping bring a mobile farmers market to Anchorage. I am interviewing you, as well as other persons and organizations involved in food security and access in Anchorage. As a result of my interviews I hope to develop a business plan for a mobile farmers market which would bring locally grown, affordably priced foods to at risk populations in the city. Your responses will be confidential.

I would like to record the interview to ensure that my notes are accurate. However, only the researchers working on this project will have access to the completed write-ups, notes and recordings. These will be kept in a secure file cabinet in the researchers' office to which only we have access. Data will be compiled in such a way that you cannot be identified.

1. How long has this store been in its current location of Mountain View?

2. Please describe the demographics of your customers: Language, background, work schedules, household makeup, and vehicle access

3. What barriers to food security and food access have you seen in Mountain View?

4. What is your opinion regarding a mobile market?

5. Would Credit Union 1 be interested in working with the mobile market to help provide fresh foods as a sponsor?

Appendix B

Potential Mobile Market Customer Consent Form

PROCEDURE:

1. Each interviewee is assigned a participant number by the PI. List the assigned interview number, record date, and sign your name as the interviewer:

Participant # _____
Date _____
Interviewer Name_____
Confirm consent: ____Yes ____No

Hello, my name is Shaina Seidner and I'm a public health student at the University of Alaska. I am working on a project which focuses on bringing a mobile farmers market to Anchorage. I would appreciate your participation by answering a few questions I have regarding food access and availability in Anchorage.

Your participation in this study requires a voluntary commitment of time on your part. There are no foreseeable risks or benefits to you personally with respect to your personal or professional status from participation in this study. Only the researchers working on this project will have access to the completed notes, which will be kept in a secure file cabinet in the researchers' office. Data will be compiled in such a way that you cannot be identified. Feel free to ask any questions as we go and if you'd like to skip a question or end early, that is ok. Do I have your consent to continue the interview?

1. If a mobile farmers market came to *neighborhood I'm representing*, what produce would you like to see sold?

2. What times of the day would work best for you to access the market?

3. Where are places you visit daily/weekly where it would be convenient for a market to be located?

4. How much does your household spend on fresh fruits/vegetables each week?

Appendix C

Potential Mobile Market Customer Survey Results

Respondent number	Produce sold	Time of day	Location	Money spent each week
1	cauliflower, asparagus, lettuce and fruits	lunchtime or after 5:00	red apple in mountain view	
2	carrots, beets, potatoes, corn	afternoon to evening	Samoan churches	more than $20
3	strawberries, berries, grapes	after 4:30	day cares	
4	radishes broccoli, carrots, bean sprouts	afternoons	boys and girls club, museum	family of 6 for $150
5	kale and leafy greens	afternoons	mountain view service center	family of 6 for $150
6	fruits such as apples, oranges,	after 2:00pm	lions park, Clark middle school	$100
7	celery, peanut butter	afternoon	lions park, Clark middle school	$100
8	grapes, Clementine's, apples	after 4:00pm	lions park	
9	kiwi, corn, broccoli, asparagus		valley of the moon, lions park	
10	prepared fresh foods, Alaskan grown and fireweed jam	quiet before noon in mountain view	bus stops most frequented, credit union	less than $10
11	berries, bananas, apples, green beans	4:30-6:30pm	Alaska native charter school, lions park	
12	strawberries, kiwi, bananas	afternoon or pm	new hope church, lions park	
13	fruits	12-4:00	parks, boys and girls club, service center	shop once a week, $50-75
14	zucchini, lettuce	afternoons	boys and girls club	$50-75
15	corn, carrots, lettuce, potatoes, turnips	evening times	near red apple	$50
16	grapes, tomatoes, cucumbers, or-	mid afternoon-PM, past 11:00am	Glenn square, red apple	$30-$40

	anges			
17	mangos, apples, carrots	school pick up hours	Clark middle school, lions park	more than $20
18	mangos, apples, carrots	school pick up hours	Clark middle school, lions park	more than $20
19	cauliflower, potatoes, apples, corn		Northway mall,	$30 a week
20	fruit options	any time	Northway mall	$30 a week
21	leafy greens	afternoon	lions park, boys and girls club	over $40 a week
22	corn, carrots, lettuce, potatoes, turnips	2:45 school pick up time, 6:00 after school program	near churches, Lyons park	$40
23	lettuce, tomato	weekends	base entrances	$40
24	berries, Alaska grown items	weekends, after work times 5:00-5:30	lions park, mountain view drive lot, ACLT	
25	bananas, apples, oranges, peppers, broccoli	outside of the 9-5 times	bus stop areas, ACLT	one person, $10 a week
26	onion, tomato, organic foods		Clark middle school	$50 a week
27	zucchini, eggplant		lions park	$25 two people
28	peppers		Clark middle school	$50 for five people
29	potatoes, tomatoes, corn, peas, beets, lettuce, squash			$10 a week
30	fruits	4:00-8:00pm afternoon hours	mountain view drive	$10 a week